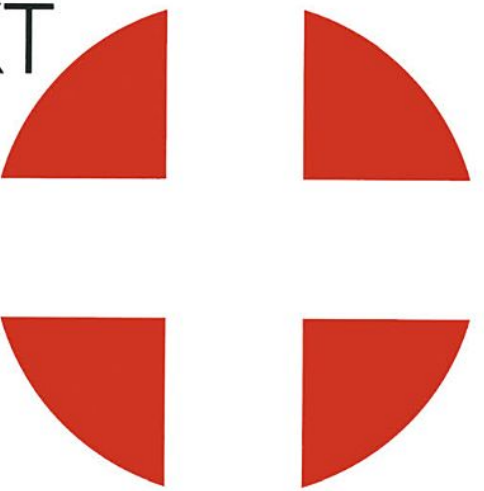
SWISS BANKING IN AN INTERNATIONAL CONTEXT

W. Blackman



SWISS BANKING IN AN INTERNATIONAL CONTEXT

Also by W. Blackman

THE CANADIAN FINANCIAL SYSTEM

Swiss Banking in an International Context

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Foreword

There are ample books on the subject of Swiss banks and their somewhat suspect behaviour regarding foreign bank deposits of dubious origins. We have seen the Iran Contra Affair, which involved a Swiss bank account, and we know that there are many equally unsavoury, though less publicised, examples of similar accounts. Unfortunately for the Swiss banking industry, these tend all too often to be about the extent of the public's awareness of Swiss bankers.

Such examples are the mere tips of icebergs – visible enough, but hardly representative of what lies underneath. It was to discover more of what lies at the heart of Swiss banking and why it has been singularly successful in a world of banking inadequacies that inspired this particular study. The result of the effort, perhaps not so surprising to the skilled observer of banking, is not that the Swiss banks have reached such a high degree of excellence, but that the banking systems of other nations have been inadequate to the task of moving deposits among and between nations with a corresponding degree of security.

This book, then, is not just a discussion on Swiss banking but also a theoretical analysis of international banking, the art of which has been nearly perfected by the Swiss. In effect, it is an analytical survey which utilises the Swiss as a case-study in banking technique. This was the objective of the research involved; it was not to argue, as might appear at first sight, that the Swiss are paragons of banking virtue. If professional readers may learn from the Swiss experience as well as their own, then the objective of the book will have been well served.

W. BLACKMAN

Preface

This is a book which uses a traditional approach to monetary economics as its subject. 'Traditional' means that if readers expect econometric or sophisticated statistical analysis they will be disappointed. As in the earlier books of economic theory which my academic colleagues know so well, the methodology is simple – to develop a theoretical approach which makes logic of what is otherwise an inchoate set of facts. If the objective is served, then it may be possible to build further on the foundation laid herein, to develop a theory of banking and finance, certainly a neglected aspect of economics.

Since the beginning of the 1980s, the world's banking system has not been in sound condition. Most of us have discovered this from the daily press and the financial and economic journals. There is, however, one exception to this generalisation, and that is the Swiss banks, which have maintained an astonishing degree of integrity throughout the stormy periods of loan default by country after country and corporation after corporation.

Robin Leigh-Pemberton, Governor of the Bank of England, noted in an article in *The Financial Times*, 30 December 1982, that the 'financial crisis is over'. He believed this because a tripartite effort had been launched at that time among commercial banks, central banks, and international financial organisations to rescue the system. This co-operation was novel in the sense that the world had not seen anything like it before. Hans Bär, Chairman of the Swiss bank, Julius Bär and Sons, sharply disagreed. He argued that the banking crisis had not really begun. Indeed, he stated, only an aid package such as a financial 'Marshall Plan' will save the system.

Of the two, we must agree with Hans Bär. There is, as this book shows, a fundamental instability introduced into the international financial system by world inflation. It is introduced as a third independent variable into the system of interest rates and exchange rates. Further, since the system itself now consists of powerful aftermarkets which sometimes behave inversely with the ordinary interest rate effects, the possibility of anything but crisis after crisis with 'band-aid' solutions is more remote than ever.

The objective, then, of this book is to explore the international banking system, hoping to find its faults, its defects, and, at the same

time, to examine the Swiss banks in their position within this international system in order to find out what is to be learned from their experience. It is as simple as that. This is not to suggest that the Swiss are paragons of banking virtue to be emulated by everyone else. It so happens that *at the present time* the Swiss bankers are the best. This is what we, as economists and bankers, have to learn.

In discussing international banking, the methodology used is to develop a logical structure somewhat typical of economists. In constructing this, we are indebted to the work of Karl Brunner and Alan Meltzer. Their explicit analyses of the Money Market (referred to herein as the Deposit Market) and the Credit Market have served as the starting points for the theoretical material of Part II. Any errors committed in the use of this brilliant logic are, naturally, ours.

We make no apologies for drawing rather heavily on a single volume written by Hans Bauer, former Chief of the Economic Department of the Swiss Bank Corporation, entitled *Swiss Bank Corporation, 1872–1972*. It would be impossible to duplicate the enormous bibliography which Mr Bauer has used in the preparation of this rare and wonderful volume. In addition, his own insight, the perception of a fine professional economist, into Swiss banking history makes this book an absolute essential for any researcher in the subject of Swiss banking.

As usual, those who so graciously gave of their time and patience to answer our many questions during interviews deserve a very special thanks. Dr Halbheer and his staff at Crédit Suisse were particularly helpful in developing the paradigm of modern Swiss banking. John Wicks, Swiss correspondent of *The Financial Times*, was also kind enough to fill in very many of the missing details which are so important. Finally, to John Hervey-Bathurst and staff of Lazard Bros. in London we owe a debt of gratitude for their patience in discussing some of the philosophical arguments underlying this book. To all of these wonderful people, we express our sincere thanks and hope that their contributions have been treated with the respect and care that they deserve.

Lastly, to the librarians of the Institute of Bankers for their patience and guidance we must be eternally grateful. Without these and the library facility itself, academic research of this kind would be impossible.

W. BLACKMAN

Part I

The Banking Paradigm

1 The Banks of Switzerland

All economic institutions have their roots somewhere in the past, and Swiss banking is no exception. This is why it is not possible either to understand or to appreciate the Swiss contribution to international banking during recent years without first considering its past and its background. While it might seem odd that a non-Swiss economist should even consider researching and writing on the subject of Swiss banking history and theory, there is really a good reason for it. The subject of this book has been the consequence of an immense curiosity over many years – just *how* have the Swiss been able to achieve in banking what other countries have not? Reading native Swiss accounts of their own national industry does not satisfy this curiosity at all. On the contrary, Swiss writers – and this is meant without any intention of adverse criticism – simply take for granted what the rest of us do not have. They lack, in a word, the objectivity of the foreigner. They also lack the theoretical framework within which Swiss banking may be compared with other systems. It is, after all, only by such comparison and contrast that the Swiss banking achievements may be appreciated.

This is the purpose of this book. It is neither to repeat the same story nor is it to re-examine from the standpoint of the conservative Swiss what is one of the finest banking institutions in the world. Either of these would be tiresome enough. It is, rather, to analyse within a theoretical context.

THE ENVIRONMENT

There is one characteristic of Swiss banking, however, that it is impossible to avoid sharing with Swiss banking historians – the geography of the country. It is obvious that the location of the country must have played a major role in the early development of the industry, especially the strategic positions of both Geneva and Basle on the map of central Europe. Situated as they are near the headwaters of the river Rhine, they were important entrepots for commerce and transport to the German cities in the north. Commerce moving from south to north required trans-shipment via the waters of the river and

this, in turn, meant a requirement for financing by merchant banks. Exporters, that is, required immediate payment, and final importers would not pay until the goods were received. Merchant bankers filled the inevitable time-gap and profited well for their service. In this fashion, the Swiss merchant banks were able to take full advantage of their strategic location because of the process of import and re-export which the natural advantage of the Rhine artery gave them.

It was from this circumstance that a powerful and influential merchant class developed fairly early in the history of Basle based upon the practice of discounting trade bills, which made it possible for the exporter to get on with his own business of production and shipment without having to wait for payment of his previous shipments. This business of 'factoring' was an important part of the income of this merchant class from the Middle Ages until as late as the nineteenth century. It is a long journey down the Rhine to the ultimate destination, and this fact of geography provided not only considerable income for bankers but an important pool of savings to be available for investment.

The savings thus acquired found their way into France, Alsace, and southwest Germany as well as to other parts of Switzerland as loans. The merchant bankers of Basle and Geneva were the intermediaries through which the savings were transferred. Their financial sophistication had developed to such a degree that they were able to secure their loans on a 'partial basis', i.e. many merchant bankers could pool their loans to accommodate a single borrower, thereby creating the historical forerunner of the modern debenture.

By the year 1840, Basle with a population of 24 000 had sixteen active bankers performing the service of financial intermediation, transmitting capital (or savings) in surplus to wherever it was in deficit. All the savings, in this instance, were derived from 'own' sources, i.e. the profits derived from commercial activity of the bankers.

THE BACKGROUND OF THE SWISS BANK

Swiss banking, probably more than any other banking system in the western world, appears to owe much to the contribution of individuals and their ideas. Instead of a gradual evolutionary development, rather like the British, Swiss banks have moved forward by way of both adopting the ideas of prominent leaders in the banking field and adapting to new and different circumstances. Swiss banking history,

thus, consists of forward leaps, a kind of 'bandwagon approach', as new ideas and principles appear on the scene either from foreign sources or from the Swiss themselves. These leaps forward, when combined with the process of adjustment to historical events, encapsulate the history of Swiss banking.

One of the more prominent historical figures in Swiss banking history, probably the most significant, was Emmanuel Passavant-Strackeisen, a member of the Committee for Commerce in Basle in 1839. His vision for the future of banking was unique in that he was the first to recognise that it was not business which was short of capital, a common belief amongst the early bankers of Basle, but 'capital which was short of business' i.e. a *surplus* of capital relative to a *shortage* of investment opportunities. He also was keenly aware of the need for a stock exchange, a clearing bank and 'revised bills of exchange', somewhat after the British and Dutch pattern, whereby discounting could be efficiently practised. Through these market institutions the capital surpluses could be made available to those wishing to utilise them.

Another prominent figure in banking, Johann Jakob Speiser, followed a few years later. He recognised the gain of efficiency which could result from clearing banks which actually made payments on behalf of customers. The clearing process removed from them the twin burdens of maintaining large amounts of cash on hand as well as the cost of maintaining the necessary staff to make the cash payments. He was very much aware of the competitive edge held by merchants in Britain and Holland in this regard, and also in the area of discounting letters of credit (as opposed to the discount of trade bills) an innovation which had not yet arrived in Swiss banking. It is curious that Speiser's proposals met with considerable opposition from the more conservative banking community of Basle. Their argument was, quite simply, why have a discount bank which would compete with existing banking facilities which were, in their opinion, quite adequate?

But progress and change were as inevitable then as now, albeit slower. The Bank of Zurich was opened in 1836 and the Bank of St Gallen in 1837. Both these banks began the issue of banknotes. Speiser's bank, the Basler Giro und Depositen Bank, followed in 1844, and was the third bank to issue banknotes. The fourth bank, the Bank of Basle, was founded in 1845 and Speiser himself was the manager of this bank.

British readers may be quite surprised at the relative 'primitiveness' of the Swiss monetary and banking system at that time. After all, Peel's

Bank Act of 1844 was already prohibiting the issue of banknotes by private banks, reserving this as a monopoly to the Bank of England. In North America, on the other hand, private banknote issue was quite common during the latter half of the nineteenth century. The practice of banknote issue meant that bank borrowers, instead of acquiring a claim against a lending bank in the form of a deposit, the current practice, would receive banknotes which would then circulate as money in discharge of obligations. As far as the Swiss and North American public were concerned, paper money had different colours and printing appropriate to the respective bank of issue but was otherwise quite acceptable.

Issuing banknotes could hardly be referred to as an 'innovation' except for the fact that the Swiss conservative banking community had, relatively late, accepted it. Much more important from a banking development point of view was Speiser's invention during the Revolutions of 1848 of a method by which Swiss bankers could receive payment on their discounted trade bills. The problem was that, during this difficult period, existing obligations were running their course without payment, and new bills were not drawn up. This left many Swiss bankers in dire straits since very much of their income was derived from the discounting of trade bills. At the same time there were Swiss banks which owed balances on bills and could not pay them because either the creditors no longer existed or the mechanism of payment had broken down. Speiser's innovation consisted of the debtor banks paying creditor banks by way of a clearing union, thereby eliminating much of the debt and certainly saving many banks from bankruptcy. After all debits and credits were cleared in this way, only a balance of about Sf 800 000 remained which could not be cleared and therefore required a loan of this amount to assist banks in difficulty. The result was that the net amount of lending required to save insolvent banks was reduced from a very large sum to the absolute minimum – the difference between creditors and debtors. This was, probably, the first example of not only the modern clearing union but also the now 'legendary' solidarity among Swiss banks through which banks assist each other in times of difficulty.

Speiser's achievements were followed by those of many other individuals in the Swiss banking community. Sometimes new bank managers, often members of boards of directors, furnished the innovative spark which was so necessary during times of crisis. Thus, within a banking community famous for its conservatism, we find the paradox of individual bankers with the vision and foresight necessary

to overcome the crisis at hand, not by conservatism but by innovation. This continues even to the present day. Dr Leutwieler, for example, formerly of the Swiss National Bank and of the Bank for International Settlements, is himself a modern example of a long Swiss tradition of innovation within this structure of conservatism. His policy adaptations to world conditions in recent years are typical of this long tradition.

But the year 1848 was important for another reason. The Swiss Confederation was formed in that year. This, for all practical purposes, resulted in the breaking-down of cantonal barriers so that banks were free to seek investment opportunities elsewhere than in their respective home cantons. Additionally, the removal of artificial cantonal boundaries meant that internal movements of trade increased so that commercial lending directly to Swiss traders became possible on a scale never reached before.

During this period the recently formed German *Zollverein* considerably reduced the possibility of Swiss commercial lending to German borrowers, at the same time that the Revolutions of 1848 effectively closed off Swiss capital investment within their more traditional areas – France and Germany. This forced Swiss bankers to look abroad for their capital outlets, to North America, England, and to Russia, ultimately to give the Swiss their famous worldwide image. We thus find the second influence, the force of historical circumstance, which seems to have been most powerful in influencing the structure of Swiss banking.

CREDIT BANKING

At the same time that the forces of history were shaping Swiss banking for all time, the bankers themselves had already made their most important forward step, the development of the concept of credit banking. Thus, instead of relying on their own resources for lending, the banks had begun, albeit in a small way, the process of lending *more* than just their own limited funds, using these as a basis for further leveraged lending. This they were able to accomplish by means of the issuance of their own banknotes.

It is important to realise precisely what was happening. A certain amount of metallic 'cash' (or cash substitutes in the form of trade bills) existed as a consequence of the ordinary business of merchant banking. These are 'own' resources. The banks then proceeded to

locate a borrower who satisfied their credit requirements and to whom they loaned funds, not in the form of metallic currency but in their own banknotes. These banknotes are obligations on the part of the issuing bank to be redeemed in metal upon presentation of the banknotes to the bank.

This procedure is in the tradition of Henri de Saint Simon who advocated the development of industry by this means. Indeed, the Swiss banks are the truly successful examples of the Saint Simonian tradition. As will become clear in the following pages, the uniquely Swiss concept of the Universal Bank is, in reality, the logical end of this development process.

In the case of foreign lending, say to France or to southern Germany, the use of the banknote as a substitute for metal amounted to an expansion of the purchasing power of the borrower. For such loans to be successful, either of two conditions must have been present: (i) some savings must have been taking place within the borrowing country to act as the counterpart to an increase in purchasing power, or (ii) the loan must have been accompanied by an increase in goods for consumption purposes. In the former case, unutilised savings, there probably was considerable saving occurring during the mid nineteenth century purely for the reason that wealth was far from equally distributed. The extremes of wealth of the rich were at the expense of the masses of poor. Thus the borrowing on the part of an ambitious industrialist in Germany from his Swiss banker, using Swiss banknotes to be exchanged for his domestic currency, would find ample amounts of underutilised resources as the counterpart of the additional funds of foreign origin. In the latter case, commercial lending would increase the amount of consumable goods at the same time that the proceeds of the loans were spent. In this way very much of the industry of Alsace was developed by Swiss bank loans, utilising unused resources, as in the former case, and since the exchange of currencies was necessary in the latter, the Swiss bankers developed highly sophisticated foreign exchange markets precisely for that purpose.

The question remains, however, why did the existing banks within the borrowing countries not satisfy credit needs within their own borders? We could hypothesise, based upon some cursory research, that the existing institutions were not yet capable of the requisite lending for industrial or commercial purposes, at least to the extent required by the economies of the countries.[1] This left a broad field for the Swiss bankers to exploit.

THE DEVELOPMENT OF THE SWISS UNIVERSAL BANK

It was the field of industrial development which Swiss banks were able to finance and which constituted the major source of their profit. Higher interest rates were to be earned from the Americans and the British, as well as the continental neighbours of Switzerland, who could not find the necessary credit from their own banking systems. The Swiss gave them that opportunity not only by means of Swiss banknote expansion but also, and more important, by providing the foreign exchange which was so necessary at the time for industrial development. Thus the industrial expansion of the nineteenth century was also the period of concomitant Swiss bank expansion. Branches were opened in all the major financial capitals of the world – London, New York, Paris, etc. – with the objective of making Swiss banking available whenever borrowers required the services.

By the year 1850 the development of Swiss banks was already well under way toward their modern structure. At that time there were 171 banks within the new Confederation with balance sheets totalling Sf 104 million. Among their principal assets were mortgages, 50 per cent, credit (business loans, etc.), 20 per cent, and another 20 per cent in cash and commercial bills (liquid assets).[2] Principal liabilities consisted of 27 per cent equity, 46 per cent savings deposits, 11 per cent bonds, and 7 per cent in issued banknotes. Since this was the period just prior to the massive surge in the industrial development of the western world, there was a strong emphasis on mortgage investment, a characteristic of Swiss banking that persists even to this day. But even more significant was the relatively large amount of savings deposits in the liabilities. This justifies the famous Swiss reputation for saving which persists still and makes it virtually impossible for the high per capita savings of the Swiss to be completely utilised as investment within the limited borders of the Confederation. The banks were literally forced to seek foreign investment because of the lack of domestic investment opportunities to serve as outlets for domestic savings.

The Saint Simon 'engines of credit', or industrial banks, were not accepted within Switzerland by the Swiss to the same degree as in France, for the very good reason that the banks, as the above statistics suggest, were already providing all the credit which was required by the Swiss economy at the time. When James Fazy founded the Banque Generale Suisse de Crédit Foncier and Mobilier in 1853 (a Saint Simon type bank modelled after the French Crédit Mobilier), conservative banking opinion reacted negatively. In fact, the *Basler Nachrichten*,

the important newspaper of the day, noted that not only were credit requirements being met by existing banks but that the function of the banking system was only to act as a mediator between savers and investors – the 'intermediation function' – not as a credit expansion device.[3] Nevertheless the contribution of the Crédit Foncier lay not in credit expansion for industrial purposes as Saint Simon had intended, but in the development of the Universal Bank which was to be the characteristic of Swiss banking which we know today.

It was this conservative reaction of Swiss bankers to the idea of credit expansion which made it possible for the Swiss to avoid both the banking and the inflationary excesses of credit expansion in other countries. Yet the innovation of monetary expansion via banknotes was necessary to accommodate industrial development and the increased flow of consumer goods which were coming forth, once more demonstrating the unique combination of conservatism and innovation which has been so characteristic of the Swiss.

There was, to be sure, one classic example of 'Simonian' banking which the Swiss entered into and which likely did more than any other single activity to prove the correctness of the conservative approach to banking. This was the ill-fated excursion into railroad construction. Soon after Confederation, the National Assembly had decided that the building of railroads was to be both a private and a cantonal responsibility. Railroad construction in the mountainous terrain of Switzerland involved immense sums of capital investment for tunnels and steep gradients through mountain passes, and, perhaps unfortunately for the banks, it was left to them to acquire this necessary capital. To be realistic, there was no other source of savings available in the magnitude required.

Not only were the natural obstacles difficult enough to finance but the railroad companies and their financing banks undertook to create even more capital-intensive projects in the form of resplendent, palatial terminals. The magnificent Hauptbahnhof in Zurich remains to this day a classic example of such excess. Still, however, it was this era of railroad financing which led to the foundation of one of the greatest Swiss banks, Crédit Suisse.

Railway financing made it inevitable that the banks suffered from illiquidity during the very period in which they were expanding their assets along with the growth of industry throughout central Europe. Indeed, some banks, those with relatively high concentrations of assets in railways, were forced into consolidation or, worse, liquidation. This was at a time when banks generally were prosperous, but such is the

nature of the industry of banking that profits from assets may be very high at the same time that the danger of illiquidity is becoming greater. It was precisely this anomaly which led to considerable debate in the National Assembly regarding the takeover by the Federal Government of the railroads. After a national referendum on the subject and still more financing problems, the Federal Government finally purchased the railroads in 1898 with the proceeds of a bond sale. Curiously, the Swiss capital market had no difficulty in absorbing the bonds and the banks' only contribution lay in underwriting.

But there was still another example of Saint Simonian influence which, though more subtle than the railway excesses, was none the less significant. Certainly it makes clear again the force of historical circumstances which has shaped Swiss banking. With the end of the Franco-Prussian War, the (at that time) enormous indemnity of 5 000 million francs was imposed upon France. The French government had no means of meeting this payment other than through a loan raised in the capital markets of Europe. To the surprise of everyone, the loan was greatly oversubscribed. A new bank, the Basler Bankverein, later to become the Swiss Bank Corporation, managed, through negotiation with the French government, to become the official agency for this loan in Switzerland. This gave the bank a considerable advantage in terms of contracts for future bond sales as well as the huge profits accruing from the French loan itself.

The proceeds of the loan, the Ff 5 000 million, were paid to the German government which in turn paid off its internal German war debt. This meant that the original German war-bond holders, those who financed the war in the first place, found themselves with a considerable amount of capital in hand which could be used for the purchase of stocks in the newly formed stock exchanges in Frankfurt and Switzerland. The Swiss banks, incidentally, were forming their own exchanges at the time so that they were able to profit both from the brokerage commissions involved in the stock exchanges as well as from the extension of credit to the exchanges. In effect, a massive circular movement of funds resulted from the French indemnity, with the Swiss banks enjoying the strategic position of not only selling the French bonds to foreign investors but assisting in the movement of the proceeds *of that same sale* back from the original German war-bond holders into the stock exchanges which they had themselves created. It was an historical circumstance *par excellence*!

The banks, however, did not stop there. They themselves found that with the aid of their own stock exchanges they could lend funds to joint

stock companies on the security of the shares themselves. Should liquid funds be required by the banks, it was simple enough to sell the same shares in either their own markets in Switzerland or in the Frankfurt exchange; they then proceeded to make additional industrial credit available using the stock markets instead of the more direct Simonian 'engines of credit'. It was, in reality, a combination of credit expansion and banking intermediation, a kind of incestuous relationship.[4]

As would be expected (with the benefit of hindsight), an overexpansion of credit took place, but this expansion was by no means confined to Swiss banks. Many banks in many countries were affected by the Panic of 1873, and, like the Swiss, discovered the importance of an adequate liquidity base to their credit structures. In particular, the fact that stock exchange prices can fall (as well as rise) so as to create an illiquidity in the banking system was precisely the opposite of the intended result. The Basle Bourse, founded in 1876, was the consequence of the Swiss version of this experience – to increase the availability of liquidity for bank deposits through the sale of shares in their portfolios.

The remainder of the decade of the 1870s was a particularly bad period for Swiss banks because of the financial collapse of the railways. It was impossible to keep many of them financially solvent. A kind of last resort was the formation of a railway bank for the purpose of selling bonds of the bank to the public and then purchasing railway bonds with the proceeds. The effect was merely to enhance confidence and to help to stabilise a situation which was impossible from the outset. Finally, in 1898, after one unsuccessful referendum, the government received permission to purchase the securities of the railways effectively nationalising the entire system.

It was during this period also that the government began the process of unifying the note issue in anticipation of the advent of the Swiss National Bank. The difficulty with a variety of notes (types, engraving, etc.) for payments purposes is obvious enough, especially when some 36 banks (22 of which were cantonal banks) have the right of note issue. In the Swiss case the issue came to a head not in Switzerland but in Paris, where the Swiss franc was having some difficulty in evaluation *vis-à-vis* the other currencies of the Latin Union. This Union, an expression of the doctrine of economic liberalism and free trade, involved Switzerland, France, and Belgium. It united the currencies of the three countries so that the coin of each could circulate freely in any of the others. It actually persisted until the Great Depression of the 1930s, a great monetary achievement of the time.

The question of which Swiss franc banknote was to be considered as a 'franc' became the centre of a controversy in Paris. The matter of the note issue was, however, settled by the arrival of the Swiss National Bank on the scene in 1907. All other banknotes were phased out by 1910 to leave the National Bank with the monopoly of note issue.

Rather more interesting from a banking point of view was the elimination of the Accommodation Bill of Exchange. Smaller Swiss banks had been engaging in the practice of not collecting their bills of exchange when they fell due but of issuing, instead, accommodation bills which were used by note-issuing banks as a basis for further note issue. This increased the total note issue, of course, and had the advantage of making considerable revenue available to the note-issuing bank when the accommodation bills fell due. As might have been expected, this practice was completely curtailed by the National Bank, which took over the practice of re-discounting only bills of specified quality, to exclude the accommodation bill. This gave a stability to the note issue of Switzerland which had been lacking up to that time.

With the advent of the Swiss National Bank – just prior, incidentally, to the Federal Reserve System in the United States – the Swiss banks achieved the qualities and characteristics of a modern banking system within their own borders. Until then there had been neither the substantive control mechanism nor a means by which the public could be assured of complete deposit security. To put it simply, the banks, though among the best in the world at the time, were subject to the errors of human judgement, the excesses of credit expansion during boom times, and the usual human failings of temptation, nepotism, embezzlement, etc. As a system it had run itself. The larger and stronger banks had absorbed the smaller and weaker ones that found themselves in difficulty, and small banks had learned to rely on large ones for their liquidity requirements (via the accommodation bill).

The success of the system as a whole lay with the larger banks and the self-discipline they imposed upon themselves. They accomplished this by continuously bringing in new, though not inexperienced, directors and managers who had proven themselves within the ranks of industry and finance. This also meant that when industrial credit was made available by participations in industry or through the outright purchase of stock, a member of the board of directors of the bank would often accept a position on the board of directors of the borrowing company. This practice of joint directorships proved itself to be very effective both in monitoring the affairs of the borrowing company, and having an input into its management. Very many of the

successful Swiss industrial enterprises had their beginnings in this way. The large Swiss banks were genuine industrial banks, not at all in the manner envisaged by Saint Simon but in a more rational sense, and it was here that their greatest success lay.

BANKS AT THE CENTRE OF FINANCE

Linking the banking system with industry in this way meant that the prosperity of the banks themselves was also linked with that of industry. But with the Swiss there was more than just industrial participation. All the other forms of investment including mortgages, trade credits, etc. were available as earning assets. Thus, when the swings of the trade cycle affected industry adversely, there were other sources of bank income which could sustain the banks.

The underwriting business was particularly important and certainly contributed much to the profits of the larger Swiss banks. The business of underwriting meant that the banks actually participated in the major capital markets of the world for the purpose of placing international loan transactions. In addition, the banks 'participated' in the sense that they loaned money for the purpose of buying securities. This was an important activity for Swiss banks both in foreign financial centres and in their own domestic stock exchanges. Thus, when market conditions were good – i.e. security prices were high and rising – income from this activity became more important relative to direct interest income from loans. When markets were poor, the banks depended more upon the loan side of their business. Indeed, it was possible for Swiss banks to loan funds for the purpose of financing the sale of securities which they *themselves* were underwriting.

In general, the capital market activity of the banks acted as a useful supplement to the other two – industrial participations and loans. Only in the rare case that all three activities were depressed were the banks (the major banks, of course) in serious difficulty. Otherwise the activities tended to offset each other, thereby preserving the profits of the banks when business conditions in industry were depressed. This is what universal banking meant and it contrasts sharply with the English tradition of fracturing the market for capital in such a way that banks specialise in only one of the activities. In this case the prosperity of the banks was directly related to the welfare of just that particular market activity alone.

Another activity of the Swiss banks followed directly from the

others, and even here profits were to be earned. This was the market in foreign exchange. International banking, underwriting, etc. requires a foreign exchange market in some considerable depth, and even to this day Basle has the largest turnover of banknotes in the world, with about Sf 2 billion of banknotes exchanged annually. But the banknotes are miniscule compared to the enormous amounts of deposits in foreign exchanges, both spot and forward, which are available in highly sophisticated markets at the lowest possible cost. And, lastly, the well known markets in precious metals, which are now the best in the world, constitute a further source of profit which is yet another activity of universal banking.

But Swiss banks were not without their periods of crises, and certainly the Panic of 1873 with the railway fiasco was an early example. The period immediately following the introduction of the National Bank was another. The withdrawal of the banknote issue caused serious loss of revenues to many banks, and there was also excessive land speculation which had to be 'shaken out' of the banking system. There were, in fact, too many banks to serve the industrial base of the small country, and this led to a futile land speculation as an alternative means of profit; thus many smaller banks which had expected perpetual rising land values had to be eliminated in the process of rationalising the banking industry.

Despite the rationalisation process, there were still 306 banks in Switzerland in 1913, a very large number for a nation of only 3 700 000 people. Total domestic assets/liabilities amounted to Sf 10 300 million, Sf 2 400 million of which were those of the seven largest banks – the 'major' banks.[5] Foreign capital assets in the year 1913 were also considerable. They were, in fact, about two-thirds of the domestic assets of 10.3 billion as Table 1.1 indicates.

Table 1.1 Foreign investments of principal banking systems (1913)

Foreign capital assets (Sf)		*Per capita*
Switzerland	6.3 billion	1575
Great Britain	85.0 billion	1981
France	43.0 billion	1075
Germany	29.0 billion	445

Source: Bauer, p. 201.

When compared to the foreign assets of the banking systems of other

countries, particularly those of the three major 'empire countries', the Swiss banks' foreign activities were relatively light. Nevertheless, by 1913, Swiss investment outside the country had achieved quite a remarkable level. On a *per capita* basis, the comparison is more striking with the Swiss standing second only to Great Britain.

In terms of risk exposure arising from the onset of the First World War, it is also obvious that Switzerland and the Swiss banks had a great deal to lose in terms of foreign investment. The post-war inflations of Germany and Austria, the realignment of national boundaries and the outright refusal of the Soviet Union to honour Czarist obligations all contributed to the difficulties of a nation so heavily involved in foreign wealth. Immediately prior to the war, the Swiss Bankers' Association estimated foreign capital, including foreign currency assets, to be about Sf 8 000 million, about 1.3 billion more than the year preceding. In the years following the war (1920) the value of foreign capital had shrunk to Sf 2 500 million, slightly less than one-third of the original pre-war level.

Additionally, the highly protectionist atmosphere following the First World War was particularly difficult for Swiss export industries. Other countries were desirous of developing their own domestic production and erected tariff barriers which made many traditional exports virtually impossible for Switzerland. This was most noticeable in the Swiss electrical industry which had long relied on export markets. In that case, however, the Swiss were fortunate in that they had an alternative to exports in the form of the electrification of their railways, a project financed by the banks, which successfully utilised the excess capacity in that industry.

A rather curious manifestation of the philosophy of protectionism occurred at that time in Switzerland in the General Assembly debates which reflected the sentiment felt throughout the entire country. Why not utilise the capital of the banks of Switzerland for developing domestic industry first and foreign industry afterward? The answer which came forth in a published pamphlet at the time was interesting. Banking had *already* become Switzerland's largest industry, and, should the foreign investment activity of the Swiss banks be curtailed, it would reduce the activity of not only a major employer but a source of income for the country, a consequence which would be intolerable.

Thus, by the time of the inter-war years, Swiss banking had already achieved an important level in the Gross National Product of the country, and in the process had entrenched itself well beyond its own national borders. In particular, since other countries were so concerned about the finance of their own domestic industrial development,

they turned to the Swiss capital market for the sale of industrial bonds to raise the necessary capital. The same protectionist sentiment in other countries which encouraged the development of domestic industry (to the detriment of Swiss exports) meant that the underwriting activity of Swiss banks picked up considerably at the same time that the export financing activity of the banks declined. This was the great advantage of universal banking.

Even the years of the Great Depression were not so severe for Swiss banks as in other countries. To be sure, the development of clearing agreements amongst countries in Europe did reduce the need for bank financing of trade, and the export industries of Switzerland suffered just as did others. But the banks did not fail, as in the United States, because the universal banking concept once more made it possible for Swiss banks to underwrite the foreign loans of other countries, notably France, in the Swiss capital market, once more an important source of profit when other banking activities were severely curtailed. Because of this the Swiss banks avoided the catastrophes which followed the collapse of the Credit Anstalt in Vienna, though they could not avoid the devaluation of the franc along with the other countries of the Latin Union, France and Belgium.

A NEW ERA OF BANKING

Just as in the case of other banking systems in the post Second World War world, the Swiss were 'thrust' into a new age of money and banking which was the combined result of the Great Depression and the new economic philosophies generated therefrom. In sharp contrast to the relatively simplistic banking intermediation principles of the pre-war era, the new age was characterised by massive intrusions of the government into the processes of saving and investing. Furthermore, what was once almost entirely the domain of the private sector – investment and production – now came under the prerogative of the state. State-owned enterprises became common in very many countries in which the Swiss banks had substantial investments. This meant severe asset losses to the banks because, in many cases, adequate compensation was not provided by the governments concerned.

The loss of foreign assets was particularly heavy in those countries which fell into the Soviet orbit. State economic planning, nationalisation of industries, etc. made it impossible for the Swiss banks to maintain serious asset positions in those countries. Indeed, new

governments replacing the old immediately assumed economic powers unheard of in pre-war years. It was imperative, therefore, that the Swiss banks extricate themselves with whatever liquid assets could be salvaged.

Despite the setbacks of the Second World War and post-war developments, the world entered upon an era of unprecedented economic expansion which, in terms of its swiftness, exceeded anything which had occurred in past years. The financial equivalent of this expansion is manifest both in the great bull markets in the stock exchanges of the world and the unprecedented growth of the assets/liabilities of the world's banking systems. For the major banks of Switzerland, an expansion of roughly 36 times occurred from the immediate post-war period to the beginning of the 1970s.[6]

In the Swiss case, the business expansion was not only in balance-sheet totals but in the other forms of business activity which constitute universal banking. Thus the stock market activity, for which the banks are actually brokers, is not included in the balance sheet itself but is, nevertheless, part of the income statements of the banks. Similarly, foreign exchange activity is also not part of balance-sheet totals but is treated as part of income.

Switzerland's worldwide reputation as a safe haven for capital has meant that frequently, during periods of world stress, foreign funds flow to the Swiss banks in greater amounts than would ordinarily be the case. Large capital inflows can at such times be a source of considerable difficulty for the Swiss economy and must therefore be discouraged. During the Korean War, for example, the banks, under the so-called 'gentlemen's agreement' with the National Bank, refrained from either paying interest on these foreign accounts or 'on-investing' the funds into Swiss top-quality securities.

These 'gentlemen's agreements' have formed the basis of Swiss monetary policy, particularly in regard to the influx of foreign funds which result from unfortunate world circumstances. Such heavy inflows of foreign capital impact on the domestic money supply and the Swiss economy is simply not large enough to sustain the monetary expansion which can result therefrom. Probably the most restrictive of these agreements was reached in 1962 when domestic credit limitations were imposed on all banks with balance sheets of over ten million francs. These were extremely onerous, and the bankers themselves do not like such restrictions.

To protect the value of the currency domestically, the Swiss have a battery of instruments for controlling the money supply, most of which

are quite familiar to any student of banking. These include the discounting of bills, Lombard advances, and open market operations. Such measures have proved in the past to be quite inadequate to the task of maintaining the value of the currency, and the voluntary co-operation of the banks has always been the last resort, especially since expanding the statutory powers of the National Bank in order to curb monetary growth has proved to be extremely difficult.

The idea of a 'gentlemen's agreement' and its implementation is, to be sure, somewhat foreign to the Anglo-American banking system. One hardly expects the banks themselves to be the instruments through which anti-inflationary pressures are implemented. Ordinarily it is industry and labour that are expected to moderate wage and price increases. To expect banks to carry the entire burden alone is not palatable even to the Swiss, especially so since branches of foreign banks in Switzerland, not so amenable to the voluntary credit restraints of the domestically owned banks, are more likely to evade the restrictions whenever possible.

Nevertheless, the gentle art of persuasion has much to commend it. There is an educative process which extends beyond the banks to industry as well. In all likelihood very much of the success of the Swiss in avoiding the inflation pressures which have plagued other countries during the recent decades is due to this process of education, which in turn leads to a general acceptance of the discipline of restrictions which had been imposed by the Federal Council in the past. Thus, while the process of public education in elementary economics principles may be slow and 'roundabout', it seems to work in the long run, and it is this which appears to underlie the success of the Swiss in avoiding the endless rounds of price increases and wage demands which have characterised the inflationary spirals in other countries.

There was another side to the anti-inflationary monetary policy administered by the banking system in response to Federal Council decree which appeared to be most disturbing to the Swiss, and, we might add, to many other countries as well. This was the growing weight of the public sector in the economy in terms of its influence in economic affairs. The welfare 'safety net' has been as all-pervasive in Switzerland as elsewhere, in the form of pension funds, public insurance, Old Age and Survivors Insurance, government enterprises, as well as the huge expenditures of canton and local governments which cannot be disciplined. The fact of the matter is that without a corresponding discipline in terms of spending on the part of these public authorities, it is extremely difficult for the banking system to

carry the entire burden of anti-inflationary policy purely in the form of credit restriction. Such credit restriction bears only upon the private sector which has been shrinking in terms of relative economic significance.

Such a situation is shared, of course, by many countries. The 'safety net' has produced government entitlement programmes of various kinds, retreat from which in times of economic distress would be extremely painful. While economic growth itself can provide for an increasing standard of living, any attempt to increase expenditure beyond the limits of growth must result in inflation. But the emphasis upon restricting excessive expenditure has lain upon the banks not upon the public authorities. This alone is sufficient to cause unemployment in the private sector by virtue of its shrinking relative proportion. In terms of the famous equation of exchange, in either the Fisherine or Pigovian form, a greater restriction of the supply of money and credit is required to reduce the rate of increase of the price level because the restriction of credit by the banking system impacts on the private sector alone. Governments have refused to take the lead or even to exert self-discipline in the matter of reasonable anti-inflationary measures.

EURO-CURRENCIES AND THE SWISS BANKS

There is a strong suspicion that not only the Swiss but other banks of the western world, restricted as they have been in their domestic economies by the 'invasion' of the public sector, have sought outlets for their surplus liquidity in the area of foreign banking. Indeed, one might even suggest an hypothesis to this effect.

As is argued subsequently in Chapter 7, banking systems do not possess an unlimited capacity to create 'money' in the ordinary sense of the word. Their lending powers are, in fact, strictly limited, not necessarily by their domestic banking laws, but by the liquidity which the public is willing to forgo and the amount of liquidity the borrowing public is willing to take up. This liquidity is transferred by the banks in the form of loans to the borrowers that require it, and the vehicle of liquidity transfer happens to be money, however defined.

In terms of liquidity the entrance of governments into the economic processes has clearly had two important results. (i) The non-liquid savings deposits of the public have been reduced by the availability of both government pensions of various kinds and the welfare 'safety

net'. In other words, the necessity for personal saving has been reduced, with the result that the public is induced not to reduce its own liquidity but to maintain an increased degree of liquidity in order to finance consumption. Growing consumption encourages an ever-increasing production of goods (as opposed to investment goods) to meet the consumption demand. (ii) Government expenditure increases the net availability of the liquidity by means of the large and continuously growing public deficits. This is true whether or not the public debt is 'monetised'. Government bonds, both marketable and non-marketable, constitute a net addition to the liquidity of the community, since they are readily transferred into cash at the option of the holder, not the government.

All that is required now for the banks to satisfy the liquidity demands of their borrowers is to encourage a measure of depositor *illiquidity* by offering interest rates for various forms of deposits. So long as these interest rates are above the rates of inflation, depositors have every reason to reduce the liquidity of funds not immediately required.

In the case of Euro-currencies, not even this measure of illiquidity is necessary. It only requires the transfer of ownership of liquid deposits to foreign banks to effectively create a Euro-currency. Depositors' liquidity can be protected by a roll-over of deposits. Further, since the possibility of utilising such deposits domestically is severely limited by the encroachment of the public sector, we can hypothesise that the growth of Euro-currencies since the 1950s is due to the banking systems of the major western countries seeking an outlet for their surplus liquidities. These outlets are precisely those countries in which liquidity is in short supply.

This is the lesson to be learned from the Swiss experience. Swiss savings through the banking medium have long outstripped the capacity of the Swiss economy to absorb. Direct bank credits have been the important lending medium, but bond lending has been increasing since the decade of the 1950s. Funds (or liquidity) for uses outside Switzerland have been made available because of the higher interest rates available from foreign investment, thereby competing directly with local investment requirements. Indeed, there has been a tendency for the world market to overwhelm the small domestic market of Switzerland with the result that a general rising trend of Swiss interest rates has been the rule since the mid-1960s along with worldwide interest rates.

It was during this time that the US interest equalisation tax was

introduced to shelter the American capital market from foreign demand, the purpose being to avoid rising interest rates in the USA itself. Quite unexpected to the American authorities, the result was the formation of the Euro-bond market in Europe – particularly London – which was to be a rival to the US capital market. Euro-bond loans were issued by bank syndicates with a time to maturity of ten to twenty years. The 'bonded loan', therefore, became the means by which Euro-banks could underwrite loans but which the capital market itself would purchase in the end. Banks would maintain their own liquidity in this way.

An interesting aside to this point is that the efforts of politicians to influence financial activities often have quite different outcomes from those anticipated. For Swiss banks, a tax which proved to be very disastrous in the long run was the anachronistic stamp duty on securities. The government persists in maintaining this tax requirement even to the present day, and has effectively eliminated Swiss banks from the European capital market; however, once more the outcome has been quite different than might have been expected. The Crédit Suisse–First Boston corporation is really not a Swiss bank at all but for many years has been one of the most effective Euro-bond underwriting banks in London! The fact remains, however, that the efforts of politicians in the world of banking and finance are likely to produce results which are more destructive than constructive.

SWISS BANKS AND THE WORLD ECONOMY

We may gain some insight into the significance of the Swiss banking system relative to the Swiss economy from some quantitative relationships. Figure 1.1 shows the growth of the Gross Domestic Product of Switzerland relative to the total assets/liabilities of the banks classified as groups 1–5. This category includes the following: 29 cantonal banks, the 5 great banks, 217 regional banks and savings banks, 2 mutual credit institutions (credit unions), and 177 'other' banks, making a current total of 430. (The Swiss must be one of the most heavily 'banked' peoples of the world.)

In 1952, the year the series begins in Figure 1.1, both the GDP and total assets/liabilities were reasonably close: Sf 30.6 billion for banks and Sf 22.7 billion for the GDP. Toward the end of the decade of the 1960s, the spread widens considerably, ultimately to reach, in 1985, Sf 226.4 billion for the GDP vs. an enormous Sf 758.4 billion for bank

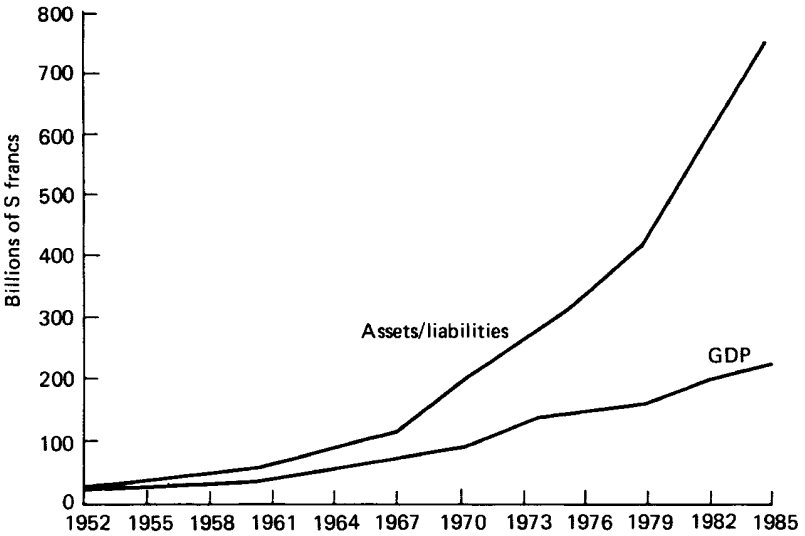


Figure 1.1 Gross domestic product and total assets/liabilities of Swiss banks
Sources: *International Financial Statistics*, IMF, p. 470; and Schweizerische Nationalbank, *Les banques suisses en 1984*, no. 69, table 21, p. 158.

assets. The activities of the banks in terms of balance-sheet totals suggest that, in terms of both employment of personnel and income generation, the banks are indeed the principal industry of the country.

If the balance sheet totals are divided between domestic and foreign sources, for all banks of Switzerland, the percentage breakdown of deposit liabilities would be as shown in Table 1.2. Most of the foreign accounts derive from the large banks. With their overseas offices in very many countries of the world, the Great Banks alone accounted for Sf 156 billion or 72.5 per cent of all foreign deposits.

Table 1.2 Proportions of domestic and foreign liabilities (1984)

	S Fr	*Percentage (%)*
Domestic	474 062	69%
Foreign	215 204	31%

Source: Schweizerische Nationalbank, *Les banques suisses en 1984*, table 91.

The deposits from foreign sources do not constitute Euro-currencies as we would define the term. They are deposits which accrue to Swiss banks in the ordinary sense, i.e. they are removed from the banking system of a particular country and are redeposited with the Swiss

banking system. The deposit transfer, in other words, is executed via the foreign exchange reserves of the countries so that the deposit losing country becomes the reserve losing country and the Swiss become the reserve gaining country.

These deposits are then invested throughout the world in accordance with prudent banking principles. Figure 1.2 will suggest at a glance the direction of asset flows.

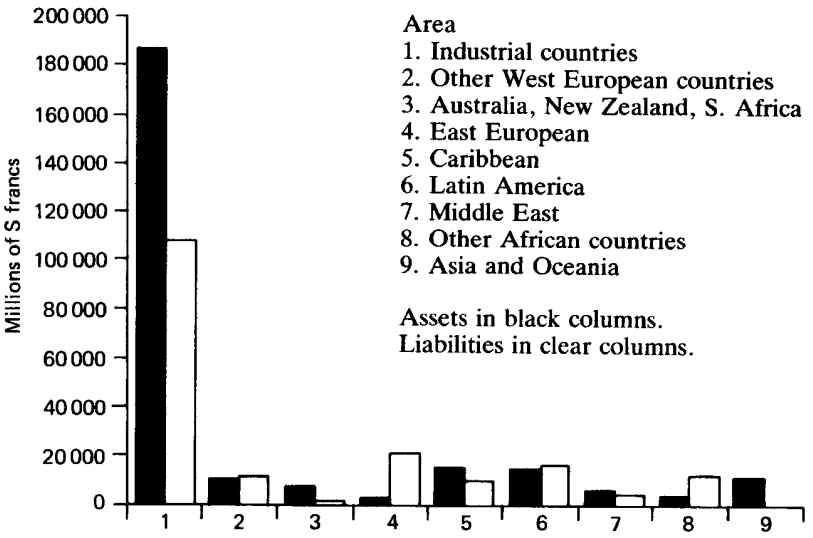


Figure 1.2 Geographic distribution of assets/liabilities, 1984
Source Table 91, Schweizerische Nationalbank, *Les banques suisses en 1984*.

It is obvious that the largest portion of Swiss foreign banking investment is channelled toward those countries which are in the best position to repay the loans – the developed countries. Similarly, the largest share of the foreign liabilities derive from precisely those same countries. To the extent that liabilities balance the assets, the balance of payments is unaffected; however, as is readily identified, the industrial countries gain from a substantial excess of assets over liabilities.

Swiss banks hold fiduciary accounts for clients which are not included in their balance sheets. For these accounts the banks assume no responsibility, but they do undertake to invest them with the prospect of a higher yield and with the minimum risk on behalf of clients. In Figure 1.3, using the same legend as above, we can easily identify the recipients of these funds as well as their sources.

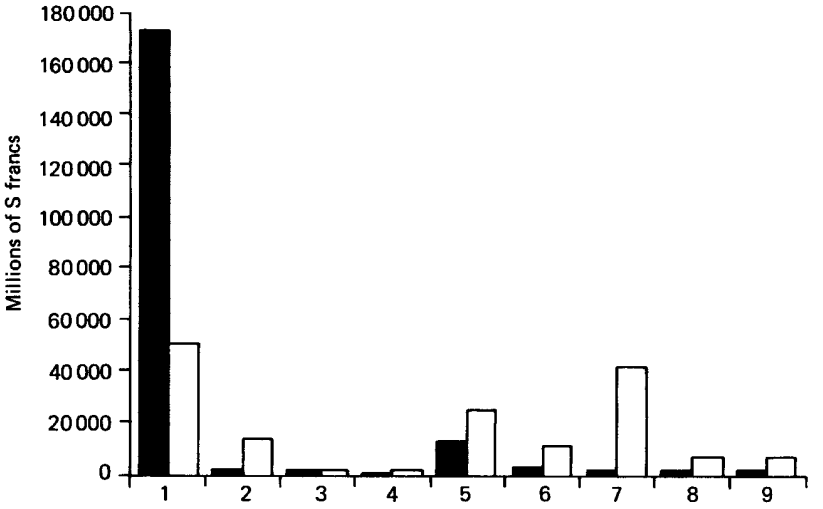


Figure 1.3 Geographic distribution of assets/liabilities, fiduciary accounts, 1984

Source Table 91, Schweizerische Nationalbank, *Les banques suisses en 1984.*

In terms of the fiduciary accounts, the assets are again more heavily invested in industrial countries and again for the same reasons as pointed out above. Groups 5 and 7, the Caribbean and Middle East countries, are heavy net contributors to these accounts.

In both these cases – the fiduciary accounts and the foreign funds of the balance-sheet assets/liabilities – the transmission of the funds is via the foreign exchange resources, i.e. a loss of foreign exchange to the 'donating' country and a gain to the receiving country. In a real sense, these deposits are 'other people's money', as the Swiss bankers are fond of pointing out. When the assets mature and when interest payments are due to the depositor, accruals of foreign exchange occur to the donating country.

This is not the case for Euro-currency accounts. Such deposits are not 'other people's money' in the same sense. They are the creation of the world's banking systems in response to liquidity requirements – a very different thing. It would appear at first sight, however, that the Swiss capital market would be an absolutely perfect location for the Euro-currency market; why, then, did Zurich lose out to London, Luxembourg, etc.?

As mentioned above, there was, and still remains, the federal stamp duty which bond issuers (the debtors) must pay for foreign currency

bond issues in Switzerland. With the growth of other competing centres for Euro-bonds in Europe, borrowers preferred to avoid this tax. Clearly, however, there emerges another significant factor which can hardly be ignored and which is likely to be much more to the point.

The Swiss banks have had long experience in the business of underwriting bonds; indeed, such business is one of their important sources of income. They accept the debtor's obligation, on the one hand, and proceed to sell these bonds to clients, on the other. Any unsaleable surplus which might exist is absorbed by the banks themselves. In the past, the Swiss have developed a 'turntable' effect, such that whenever, for reasons of monetary policy, the gentlemen's agreements discouraged the import of capital into Switzerland via the Swiss franc, the capital would be immediately switched from the franc into the foreign currency of the borrower. This would avoid the problem of affecting the Swiss money supply, on the one hand, and 'dodge' the stamp duty, on the other.

Euro-bonds, issued in currencies other than that of the debtor, cannot move directly into the debtor's currency without involving a third currency – the currency of the 'host' country. Only in the event of direct spot exchange does the third currency escape. Swap arrangements, which are necessary for forward exchange, always require a third currency, and this would be the Swiss franc if Zurich, for example, were to become an international centre for the negotiation of Euro-bonds. The likelihood, therefore, of a Euro-Swiss franc coming into existence would be extremely high; indeed, it would be almost certain under the circumstances of a strong franc in a country with the lowest inflation rate in the western world.

While the Swiss manufacturing economy is famous for its exports, particularly of capital equipment, it is hardly capable of satisfying the enormous foreign demand which could arise from a Euro-Swiss franc 'currency'. Price stability in Switzerland would encourage such demand, especially with a franc which maintains a stable exchange rate. It would be virtually impossible, therefore, to contain inflationary pressures within Switzerland itself. This, it would appear, is the more likely reason for not having a Euro-bond market in Switzerland; or, even further, it is the economic logic underpinning the prohibitive stamp duty as opposed to an intransigent government of the Confederation which insists upon a tax revenue. We shall have occasion to discuss this point further in subsequent chapters.

Despite this so-called 'handicap' the banks have participated in Euro-currency bond financing by means of their branch banks in

London and in other Euro-currency capitals. Indeed, they have assumed a major role in the entire process of transferring liquidity, which, in the final analysis, is what Euro-currency borrowing and lending is all about. Precisely how the Swiss banks 'fit' into the international scheme of capital markets, international banking, and Euro-currencies the ensuing chapters, it is hoped, will make clear.

2 Banking, an Industry of Confidence

A BANKING PRINCIPLE

From the outset of their experience, banks have depended upon a relationship between themselves and their customers which is entirely unique. Like the patient and his physician, the customers trust their banks to an extent unequalled in any other industry or government. Yet, there exists no contractual arrangement to warrant such a high degree of trust. A bank account is really no more than a mutual agreement between customer and banker to the effect that payments will be transmitted by the banker on the customer's behalf, and that cash (in whatever form) may be returned to the customer when he so wishes.

This fact of confidence is extremely elementary, yet much confusion has surrounded it. The confusion arises because, as bankers know, *some* cash is required by customers for payment purposes; hence an amount of cash must be available in the banks to satisfy this requirement at all times. Not to have cash available would erode the confidence which is at the heart of banking. This means that a 'reserve', however defined, of cash must be either ready at hand or very close so as to meet customers' needs.

It is this 'reserve' which is the subject of confusion. Somehow, it is believed, the central authority (a central bank, for instance) by either augmenting or decreasing the amount of reserves, may increase or decrease the total money supply by a multiple – this multiple being the reciprocal of the ratio of reserve to deposits. In other words, what is purely a means of ensuring confidence has become a method of monetary control.[1] In addition, treating the money supply as a multiple of some reserve, means that money is purely exogenous – outside the system – a condition which is contrary to observation.

Such a banking paradigm as this, as is argued in Chapter 3, is inverted. The more correct approach to the understanding of the banking process is to consider the industry precisely as bankers themselves do; instead of high-powered money being injected into the banking system, thereby to expand deposits via a multiplier, deposits arise from confidence in the system itself. Generally, the greater the confidence, the more the deposits.

THE DEPOSIT MARKET

The necessary banking reserves are determined by the level of deposits because it is these reserves which are necessary to make the deposit system work. The correct point of departure, then, is the confidence necessary to establish the deposits in the first place, not the reserves, because, in reality, deposits consist of nothing more than confidence, and when payments are made on our behalf by the banks, these 'confidences', now having become deposits, change ownership.

The initial condition for the bankers' paradigm is the deposits which banks owe the public. If the banker has a deposit (or deposits) which he knows will be available for lending for a specific length of time (a five-year deposit to match a five-year loan, etc.) he can successfully offer such a loan by writing in another claim against his bank. In effect, the banker makes the loan and instantly 'borrows back' the loan proceeds by offering a deposit in the form of a second claim against himself. This 'second claim' is, therefore, another deposit *as well as* a vehicle by means of which the original deposit is loaned. It is a concrete expression of the banker's confidence in the borrower just as the original depositor expressed his confidence in the banker. At the same time, the economy gains enormously in terms of efficiency because huge volumes of debt may be discharged by a deposit banking system in a way that makes cash payments antediluvian.

In former times, banks issued their own banknotes. Such notes circulated as cash, but today, rather than issuing notes, banks 'issue' their own deposits instead. Or, if one wished, the process can be thought of as issuing notes, then *reborrowing the same notes back* as a deposit, always, to repeat, with the entire process resting upon a substructure of confidence.[2]

The statutory banking reserves which are so dear to the analytical heart of many economists, are really a tax on the banks, because in most countries, Switzerland included, a certain portion of total deposits must be made with the central bank and these deposits earn no interest. In actual fact, the statutory reserves function as a limit to deposit expansion, and the closer banks approach that limit the more costly become the attempts to reach it.[3] The costs arise because banks are required to sell interest-earning assets to transfer to central banks deposits which earn no interest.

We would argue that this is not only the simplest but the most accurate description of the banking process, in contrast to, we might add, the traditional 'bank multiplier' approach so important to the

economist's logic. Increases in total deposits do occur when the second deposit is 'written in' in response to a loan requirement, but such loans and the writing in of the corresponding deposit can only be made when there exists a preceding idle deposit, because if there were not such a corresponding idle deposit, a bank would be threatened with a loss of confidence and ensuing bankruptcy when the original deposit is required by its owner for the discharge of debt. Should there be a sufficient number of such 'idle' deposits relative to the requirements for loans, banks need not actively seek 'idleness' with higher interest rewards.[4] On the other hand, if such deposits are scarce, bankers must bid for longer-term savings deposits by offering higher rewards of interest, and it is precisely this which constitutes the market for deposits. Note carefully that there are no mathematical multipliers present, for the very simple reason that there are none except in the imagination of the economist.[5]

Much of the misunderstanding, perhaps the source of the economist's confusion, rests upon how close banks operate to the limits imposed by their statutory reserve ratios. Swiss banks, to take one extreme, are very far from these limits; hence enormous levels of reserves exist at any one time. At the other extreme, Canadian banks are very close to their statutory limits with very small amounts of excess reserves. American banks have the well-known 'Federal Funds' which are surplus to the reserve requirements of some of the banks and are available for lending to those other banks within the system which may require them to meet, temporarily, their reserve requirements. The interest rate on which such funds are loaned is an important measure of the degree of tightness or ease of the money supply.

While the amount of liquid reserves is undoubtedly the most important single factor in sustaining confidence in the banking system, it is a fair conclusion that even the Swiss banks with their huge reserves could not sustain a 100 per cent run on their deposits. This is despite the fact that the Swiss banks are very much stronger than most banks elsewhere in terms of their ability to withstand such a run. Indeed, there is *no* banking system anywhere that could survive a complete collapse of confidence.

This is the logic underlying the market for the deposits. The banks acquire such deposits by means of the public's willingness to forgo liquidity. The public, in its turn, does so with the reward of an interest offered to it by banks. The longer the period of liquidity forgone, generally, the greater the interest reward. Similarly, the greater the degree of confidence, the less is the interest necessary to induce a sacrifice of liquidity.[6]

THE INDUSTRIAL CONTRIBUTION OF BANKING

On the assets side, there is a second market – a market for the liquidity received by banks from depositors and available for lending at interest by the banks. Borrowers, that is, offer their assets to banks in exchange for the liquidity which they require to bring their assets to fruition. After having received this liquidity in exchange for their assets, which represent the security underlying their promises to pay as far as the banks are concerned, borrowers are now prepared to build, develop, or otherwise create the fixed assets which society requires.

In the process of deciding which assets to acquire in exchange for the liquidity in their possession, banks are helping to identify the all-important marginal product of investment for society as a whole. Thus, it is not merely a matter of selecting the asset which offers the highest interest return to the banks but also that asset which carries with it the security of loan repayment. In other words, it is a combination of the banks' confidence in the asset quality and the interest reward. Both criteria are necessary to identify society's marginal product.

We may gain a little analytical precision with the aid of a diagram initially developed by Professor Hayek as an example of 'point-input, point-output' type of investment.[7] On the vertical axis value is measured, on the horizontal, time. A deposit to the amount of V_1 is agreed upon at a rate of interest, r, which will satisfy the depositor's liquidity forgone, between the bank and the depositor. This constitutes the Deposit Market. It is the deposit which will increase in value via continuous compounding on the Ve^{rt} function through time.

A 'project' which will mature in time t_1 is likewise agreed upon between the banker and a borrower. This project, when discounted via the marginal product of investment, s, will equate to zero, i.e. the bank debt is completely discharged.[8] This is the Credit Market. Equilibrium exists when the two functions, the Deposit Market and the Credit Market, are tangent. At this point the marginal product of investment just equals the interest rate, $s=r$. The bank's task, in this case, is to identify such a marginal product and, with an allowance for the usual margin of profit, equate this with the interest reward offered the depositor. The liquidity forgone by the depositor for time period t_1 is just sufficient for the borrower's project to mature.

Under equilibrium conditions the project indicated in Figure 2.1 is a 'marginal' project in that it is the last one conceived at the discount rate, s. Other inframarginal projects would include those with discount rates higher than 's' so that the banks will first exhaust these, since they

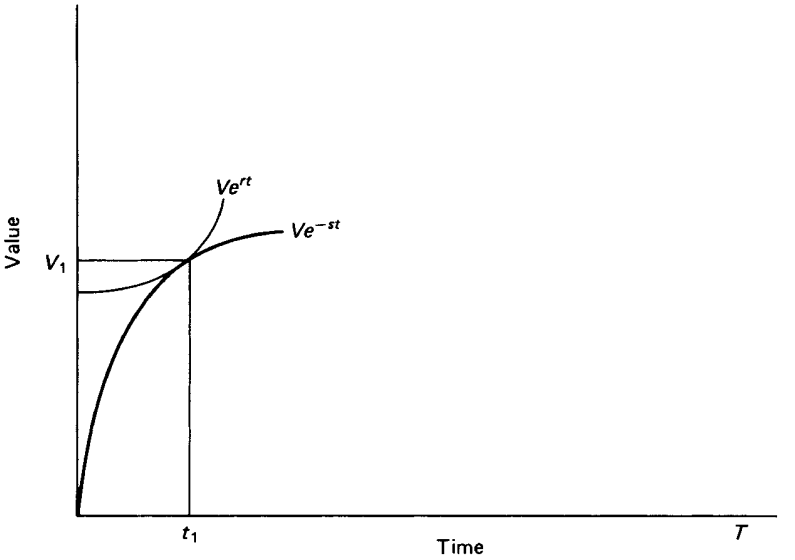


Figure 2.1 Equating the value of society's marginal product with the internal rate of return

are more profitable, finally to arrive at the true measure of society's marginal product of investment which is actually the discount rate for the marginal investment project. Bankers will maximise their returns in this way as investment projects are financed via the Credit Market.

The efficiency with which banks perform their intermediation function between the two markets, the Deposit Market and the Credit Market, constitutes their contribution to society. In the case of universal banks, such as the Swiss, the banks act as more than just intermediators; they become part of the credit market itself.

Very early in their historical development, Swiss banks recognised the importance of the Credit Market as well as the necessity for their investments to approximate as closely as possible the marginal social product of capital. There is a difference, of course, between the marginal social product and the bank's marginal product of capital. Swiss banks achieve their maximum economic efficiency when they equate their own marginal product from their investment with the marginal social product – the marginal product which results from the optimum allocation of society's resources. When the banks are successful in this equation, their profits are as high as possible *given the least risk to themselves and to their depositors.*

The method of investment which Swiss bankers sometimes used was to ensure that a member of the board of directors of their bank also became a member of the board of directors of a borrowing corporation. By taking an active interest in the borrowing company, there was a gain in economic efficiency in terms of equating their marginal product of capital with society's marginal product of capital. Because of the difference in banking technique, this method has not been available to the Anglo-American banks. These latter banks are commercial banks in the sense that historically they have performed the function of financing only commercial lending. While the distinction between commercial banks and industrial banks has been breaking down in recent years, it is probably true that neither the experience nor the public acceptability is yet in place for an evaluation of industrial projects by commercial banks in terms of the marginal social product of capital.

In addition, American banks suffer the handicap of still being under the adverse influence of the traditional American suspicion of powerful banking interests. This tends to restrain what would ordinarily be quite legitimate industrial participation activity, in sharp contrast to the universal banks of Switzerland.

The twin problems of confidence and the liquidity necessary to maintain that confidence are ever present for bankers. It means that the assets of the bank must be sufficiently high in quality to be assured of repayment on the date of maturity. At the same time, the depositors' confidence is necessary so that when one depositor requires his liquidity before the corresponding asset matures another depositor is available to provide the liquidity required by the first depositor. It is not the function of a small ratio of legal cash or central bank deposits to provide all depositors with the liquidity they require at all times.

We can readily see, with the aid of the logic of Figure 2.1, the inherent problems in terms of both liquidity and the confidence which underlies the banking industry. Figure 2.2 identifies these. Should a bank identify a project for financing to time, T, when it matures, and should it not be able to acquire the necessary nonliquid deposits to equal this time span, it could roll over its shorter term deposits until the time T is reached. In Figure 2.2, this is readily identified as three 'more liquid' deposits which are removed from the banks at times t_1 and t_2, for the first two, after which the third deposit is removed at the time, T, when the industrial project matures. In this case, deposit 2 finances the removal of deposit 1, deposit 3 finances deposit 2, and, finally the project itself finances the removal of the third deposit.

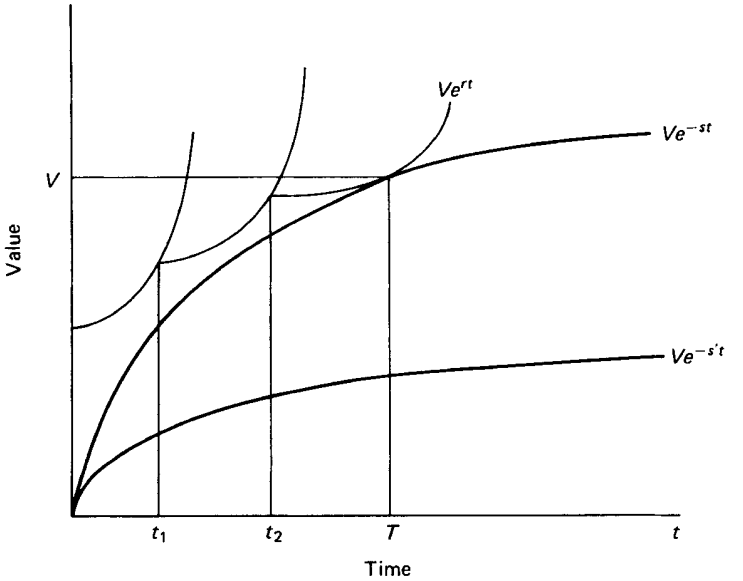


Figure 2.2 Deposit rollover to equate the internal rate of return

Three different deposit interest rates are suggested in the slopes of the deposit functions. Additionally, these rates must be declining in order to reach a point of tangency with the project function in this roll-over case. Should deposit market rates be rising, instead of falling, it is obvious what must certainly occur. A point of tangency cannot be reached and the bank is therefore in difficulty. It must provide some of its own funding to make up the difference between the project function and the last deposit function.[9]

But rising deposit market functions need not be the only source of difficulty. In the event that the project function, Ve^{-st}, fails to materialise at time T, the gap between the two market functions will widen. It would be the equivalent of a lower value of the discount rate, s', which would mean a much lower level of the project function. We might consider, as a realisitic example, Dome Petroleum, which has been financed by a consortium of banks. The actual marginal product of investment was very much less than the banks expected in this particular case.

Without troubling to include the collapsed value function for Dome, readers may easily imagine a lower value function than is included in Figure 2.2, even lower than the value, s'. The banking problem of both

liquidity and confidence is readily seen in the form of the imagined gap between the project function (which is actually the Credit Market) and the Deposit Market. The confidence problem is involved in the capacity to continue rolling over the deposit function, i.e. a fourth deposit is needed to finance the maturing third deposit in the absence of funds from the ill-fated project. The liquidity problem involves the wherewithal to pay the difference between the now collapsed project function and the (new) fourth deposit function. The two are interrelated, of course, because confidence is unlikely to be retained when the additional liquidity to fund the difference is absent.

Reference to Figure 2.2 will also make clear the havoc wrought by inflation. When interest rates rise because of higher inflation rates (thereby maintaining real interest rates constant), successive roll-over of deposits becomes more expensive. If project rates are contracted before the inflation, long-term mortgages for example, at lower money rates of interest, the banks can be in serious trouble. Additional sources of liquidity are absolutely essential for such banks to survive *if* a large portion of banks' assets are of just this type of lending.

If the monetary authority is determined to encourage low interest rates, to follow a 'Keynesian' employment stimulation policy, it must supply additional funding for the credit market. There is no other choice. This raises another very important matter – that of the efficiency of the banks in performing their function. Is it possible, to phrase it in the form of a rhetorical question, for banks to maintain their economic efficiency by identifying the marginal social product of investment under conditions of (i) inflation and (ii) additional liquidity being supplied by the government to maintain low nominal rates of interest? Highly unlikely.

Markets, to be efficient, require a rationing-by-price mechanism. Since two markets are involved in the case of banks, and one, the Deposit Market, requires the acquisition of scarce liquidity and the other the allocation of this liquidity to its most effective use in the Credit Market, it is difficult to imagine the system working efficiently when additional liquidity is forced into the banks from outside the market system in order to maintain low interest rates. In this case, the marginal social product of investment would be less than what it should be, and this implies an overextension of investment (declining marginal productivity is operative here). In other words, the excessive credit requirements of Dome Petroleum never should have been financed by the banks in the first place. To do so has meant that society's precious resources have been wasted.

LOSS OF CONFIDENCE, THE BANKING PANIC

A loss of confidence in the banking system is characterised by a refusal on the part of depositors to forgo the liquidity of their funds: i.e. the Deposit Market collapses. The public refuses to accept any loss of liquidity (or degree of uncertainty) regarding its wealth, preferring instead cash, gold, paper, or whatever serves as liquid currency. The expectation is that the value of cash is 'certain' whereas deposits are not. Such a situation, when sufficiently general, can develop into a genuine panic, in which case the banks are literally 'bankrupt' because it is not possible for all of them to obtain immediate access to the liquidity locked in their assets even if these assets are of the highest quality.

Panics of this nature appear to result from a collapse of the marginal product of investment with a consequent drop in the investment function (see Figure 2.2). The discounted rate of return on investment, s, falls, and to restore equilibrium, interest rates, r (from the depositor's point of view) must necessarily fall at the same time that liquidity is forgone for longer periods. But this latter is an impossibility for the depositor. He can only extricate himself by demanding payment at once in the form of cash, because the increase in uncertainty combined with extending his illiquidity at lower interest rates is contradictory.

Confidence lost in a specific bank can spread to the entire banking system (or systems), of course, even though investments of other banks may be perfectly sound. In other words, the collapse of the value of 's' in just one case need not mean a general collapse in the entire social marginal product of investment even though the public's loss of confidence can rapidly spread.

There is considerable evidence that the great banking panics of the nineteenth century were precisely of this nature. While they seemed to occur at approximately ten-year intervals, they had two fundamental characteristics. There were, firstly, some specific loans or investments which were either valueless, initially, or became so in the process of time. Frequently these devalued assets were the consequence of overspeculation in land or other industrial investments which had little prospect of fruition. This precipitated, secondly, a banking panic which spread to other, otherwise sound banks but which were unable to withstand a general loss of confidence – there is no bank which can be completely perfect without 100 per cent liquid reserves.

During the earlier years of British banking, such failures were quite

common. Clapham records that some 206 bankruptcies occurred during the 15-year span, 1815 to 1830.[10] There was, of course, a great deal of ignorance regarding acceptable banking practices during these years and very much speculative lending occurred to precipitate these failures; there were, it appears, always the two general causes – either speculation with their resources or an overextension of credit accommodation to a single firm. In both cases the risk factor was enormously increased, because, when the borrowing firm fell into difficulty or the speculative bubble burst, the bank was brought down into bankruptcy.

As commercial banking developed, to become the principal form of banking in Great Britain, discounting of bills of exchange came to be the more common activity. But here also the banks were still subject to the unwise practice of discounting or lending against nearly worthless bills. The use of single signatures, generally their own, on these bills was quite common, and against these, banks would issue their own banknotes.

But these were the early years of joint-stock banking and it was not until the latter half of the nineteenth century that banks learned what was finally to become the more common practice of only purchasing bills of exchange drawn on London banks and readily exchangeable for Bank of England notes. It was then that British banking became secure in the sense that bankruptcies could be avoided by gold payments from the Bank of England, thereby generating a worldwide confidence in the British banking system which was so very important during those years.

By the time of the Panic of 1857, British banks were already 'international' in the sense that the United States became a large net recipient of capital investment through British banks. But it was not just the investment of capital: there was also a heavy proportion (about one-fifth) of British foreign trade orientation towards the USA. In equity capital also there was a considerable amount of 'export'; about one-third of the foreign securities listed on the London stock exchange were American.

The collapse of the American railway boom resulted from an excessive push of railways westward (meaning to Illinois at that time). This had the usual result as far as the American banks that financed the railways were concerned, and when the banks in Philadelphia, New York and Baltimore collapsed, the resulting loss of confidence spread across the Atlantic, even though British banks themselves were quite sound. The financial relationship between the USA and Britain was already so close, via the stock exchange, the investing banks, and the

financing of foreign trade, that economic developments in America were certain to have a 'confidence impact' in London.

We can readily conceive of such a loss of confidence as an upward bending of the deposit functions in the above Figures 2.1 and 2.2 so that the time to the maturity of the deposit would collapse to zero. This was, and still is, the nature of a panic. Unless the depositor could somehow be persuaded by higher interest rates to accept a longer term than 'zero' time, a massive drain of liquidity (gold in this case), with banknotes being exchanged by the public for gold at the Bank of England, was inevitable.

The degree of severity of early banking panics was measured by this drain of gold from the Bank of England combined with the height of the Bank's interest rate necessary to augment what gold reserves the Bank had remaining. The ultimate panic, of course, was that which required the suspension of the Bank Act. This meant that Bank of England notes were substituted for gold payments, in which case the public was forced to accept and retain banknotes.[11]

The Panic of 1873 was of a somewhat different pattern in that a general recession throughout Europe and America preceded the actual panic. In effect, there was a more gradual and more general decline in the marginal product of investment due to an overexpansion of industrial capacity. The pace of industrial activity had been excessive. As to the immediate cause of the recession, excessive railroad building was again responsible, but there had been, in addition, a long-term monetary deflation put into effect by the United States government through its determination to re-purchase the Civil War currency (greenbacks) with gold or gold equivalent. The actual panic itself began in New York with bank failures and closures and, finally, the suspension of trading on the stock exchange. It then spread to Europe to become international once more.

The Panic of 1907 must have been a classic banking panic *per se*, in the sense that the only cause appeared to be the failure of the Knickerbocker Trust Co. of New York. It was the spread of the panic which was so startling, both in its severity and its depth. At the time the United States had no central bank, and the national banking system then in effect was quite incapable of coping with a panic situation such as this. Between the end of September and early November, the Bank of England had lost ten million pounds through gold purchases by US banks in order to accommodate the massive gold hoardings which were taking place in the USA. To provide this gold, the Bank of England bank rate rose to the unheard-of level (unheard of since 1873) of 7 per cent. The panic was irrational in the sense that it

was not preceded by a recession; it is difficult to identify a single cause, aside from the failure of the Knickerbocker Trust itself. Perhaps because of this very absence of an adequate cause, the Panic was short-lived.

The 1929 financial collapse in the United States was the extreme example of a loss of confidence in banking systems, the causes of which have been and will continue to be the source of controversy among economists and historians as long as the science of economics exists. Without entering into this detailed controversy, we can note H.U. Faulkner's point that a long, drawn-out series of credit crises in the United States preceded the stock market crash of 1929 and that these were also a result of an uneven decline in commodity prices.[12] Again, as we have already noted, falling prices reduced the marginal product of investment causing a spread between the credit market function and the deposit market. Thus, without a substantial lowering of the interest rate, an equilibrium between the two markets becomes impossible.

Given the circumstances of declining marginal products, banks had to seek more profitable lending activity than merely investment in productive capacity. Similar to the excesses of British and American nineteenth-century banking, American banks elected to lend to stock market investors who preferred to speculate in a seemingly endless bull stock market. Instead of land speculation or railway booms, the stock market provided the speculative opportunity. The result was, as might have been expected, the collapse of the stock exchange which brought the banks down with it.

The relatively weak and highly diverse banking structure of the USA meant that it was particularly vulnerable to the Wall Street crash. The Federal Reserve System had not had the opportunity to develop into the mature central banking system necessary for coping with the emergency. Thus, instead of making additional liquidity available to the banks during the time of panic, the more normal solution to the problem of collapsed bank liquidity, the Federal Reserve Board elected to raise interest rates for the purpose of checking the outflow of gold. In order to accomplish this the Federal Reserve Board had to further restrict bank liquidity, precisely the opposite of what should have been. This is Milton Friedman's now well-known criticism of the Federal Reserve Board and its action at the time.[13]

THE ANATOMY OF PANICS

The periodic panics of British and North American banking can be

recognised as the 'growing-pains' of a banking industry. The growing-pains were part of the necessary adaptation of banking to the requirements of a massive industrial development process which began first in Great Britain, then spread to the USA. To a large extent, it was the industrial revolution and its direction of change that dictated the nature of banking growth and development rather than the industrial development process fitting itself into the principles of sound banking.

Britain's early financial history was fraught with bank failures as banking mistakes compounded one upon the other. Experience was the teacher, and the learning process did not come easily. Sometimes the process of fitting a banking system into a mould suitable for financing industrial development required the discarding of the unsuitable banks and the maintenance of those that were more efficient. Banking panics served precisely this function. On the other hand, sometimes the burden of adjustment appeared to fall on industry itself in a kind of feedback process to fit the financial mould. Again the periodic business cycles served the purpose by weeding out the inefficient industries through the banks' procedure of foreclosure and sale of assets of bankrupt firms. In relating banking to industry, and vice versa, during the earlier period of the industrial revolution, one has the distinct impression of a new shoe trying to fit an old foot. We are not quite sure which accommodates which.

When periodic cycles of business activity occurred, the collapse of the weaker banks certainly reinforced the economic downturn. But which occurred first, the banking collapse or the downturn? We cannot be absolutely positive. Even the classic Friedman–Schwartz study, *A Monetary History of the United States*, leaves this in doubt. Only in the case of major business recessions can we be certain that 'pure' bank panics occurred early in the recession, thus further depressing business activity.[14]

As noted above, a banking panic is the equivalent of deposit illiquidity collapsing to time zero. The normal banking function of intermediation between two liquidities, the depositor's preferred liquidity and the borrower's desired illiquidity until the time to maturity of the loan arrives, ceases, because there is no liquidity at all forgone by the depositor. When sufficient numbers of deposits thus collapse, it becomes impossible to satisfy erstwhile depositors' liquidity requirements because the banks' asset values will not become available in liquid form until maturity. As a consequence, further lending becomes an impossibility and unemployment results.

The collapse of the 'money supply', however it is defined, is the inevitable consequence. Banks lend what is entrusted to them by creating claims against themselves, and if there is no initial liquidity forgone, lending becomes impossible. Furthermore, no further claims against the banking system, i.e. 'money', can be created.

The Friedman/Schwartz research into monetary cycles and related business cycles in the United States is particularly interesting here. They concluded that for major business cycles, a monetary contraction preceded the ordinary business cycle, causing unemployment. Bank intermediation between the credit market and the deposit market had ceased because the deposit market itself had ceased to function. This was the case for major business cycles. For minor business cycles, the converse was true, i.e. a collapse, first, in the marginal product of capital, following the course of the business cycle, *then* a collapse of the money supply.[15]

Whichever occurs first, a collapse of the deposit market or the credit market, banking confidence is destroyed. This is the consequence of a spreading gap between the deposit function and the credit function (see Figure 2.3). The gap between the Credit Market function, Ve^{-st}, and the Deposit Market function, De^{rt}, is the liquidity requirement for borrowers. Disequilibrium results from the absence of confidence in the particular bank (or banks). In the event that this liquidity cannot be derived from the Credit Market investments, sufficient liquid funds

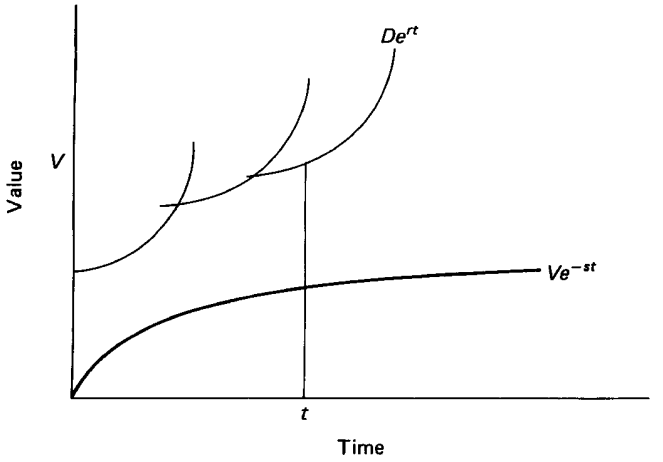


Figure 2.3 A collapse of liquidity between the credit market and the deposit market

from other sources must be on hand to satisfy the requirements of depositors.

The periodic banking panics observed by Friedman and Schwartz appear to be manifestations of precisely this loss of confidence. The reasons for such losses of confidence are extraneous events, political or economic, which impinge upon the banks; however, there would have been no effect at all on the economic system of such losses of confidence had there been sufficient reserves to accommodate the requirements of depositors. Since British and American banks prefer to minimise their reserves, thereby maximising their profits from lending to the highest possible degree, they are subject to the periodic panics resulting from loss of confidence.

The Swiss banking system is an entirely different matter. If losses of confidence can precipitate banking panics and recessions in North America and Europe (an 'inconvenience' to be sure), a loss of confidence in Swiss banks would be an unmitigated disaster. Recovery from such a tragedy would be neither quick nor cyclical, because the entire banking industry would, theoretically, cease to exist.

This was the case in point regarding the railways discussed in Chapter 1. Swiss banks did not adjust to railway construction, as was the case in the United States; railway construction adjusted to the banks. Railway financing by the banks was a 'bootstrap' operation in the sense that there would have been no railways at all in Switzerland without them. This was the essence of industrial banking as developed by the Swiss.

The difference is crucial. When banks are developed to service an industrial and commercial sector which either exists or is in the process of development, the Credit Market function, Ve^{-st}, is already in place. The banks, recognising the potential for profit, set about acquiring the funds to finance this Credit Market.

Suppose, on the other hand, that the Deposit Market, De^{rt}, is in place first. Swiss banks, that is, already have 'other people's money' available for lending should they be able to identify or (more to the point) create their own Credit Market project. The banker's 'psychology' is quite different. He is obligated to his depositors on two counts: (i) should depositors wish their funds returned, he must have them available, and (ii) the project itself must hold sufficient promise that interest rewards to the depositors are forthcoming. On either count, failure means a loss of confidence and could easily result in a dearth of funds from which the banker would never again recover. This locks the Swiss banker into an almost contractual obligation. Indeed,

when the banking activity assumes such great importance in the economy as is the case in Switzerland, there is literally no alternative but to perform to the highest degree of economic efficiency possible, and this means, in turn, the development of strong, secure, industrial firms. Any loss of confidence would be a national disaster.

Note carefully the difference between the Swiss banking structure and that of the West. In the West, Credit Market opportunities are already in place. The banker's task is to acquire the funds from depositors who are sufficiently willing to forgo their liquidity to permit them to be loaned. The depositor, in other words, assumes the risk, should the banker misjudge his availability of liquidity. Swiss banks, on the other hand, already have the deposit funds; their task is to develop the industry to fit the circumstance of their deposits.

Swiss bankers learned their craft from experience just as any banker anywhere. The period of the 1870s was particularly difficult for them when the railway building boom collapsed. Those banks which suffered from liquidity problems were forced into liquidation or consolidation with the other banks which happened to be more fortunately placed. But the 1870s was just such a period in which Swiss industry was literally being lifted by its bootstraps through banking intermediation. This was Saint Simonian banking at its best, for industry itself – textiles, engineering, electrical, etc. – was being developed almost entirely by the banks alone. Most important, the Swiss banker was undergoing development through a process of evolution – only the fittest may survive – in the industrial banking tradition.

Once more, by way of contrast, Western banks at the time were developing in a very different tradition. With Western depositors assuming their own risks, the deposits acquired by banks became the 'property' of the banks to be structured as assets. Instead of being 'other people's money', as in the Swiss case, the banks were using their *own* funds for lending. Furthermore, the practice of lending claims against the banks in the form of banknotes or, later, deposits, meant that a money expansion process was taking place.

Structuring assets to suit the requirements of industry (the Western case) means that another risk is assumed. Bankers place themselves in jeopardy depending upon the success, or failure, of the ventures they finance. Further, industry depends upon the banks for the financing of certain aspects of their activity. The structure of industry, therefore, becomes the structure of banking; likewise the welfare of industry becomes the welfare of banking. Banks, the money supply, and

industrial activity become indissolubly one, and the business cycle works its way through its endless repetition with each reacting upon the other.

THE SWISS BANKING MODEL

Swiss bankers, on the other hand, do not require their depositors to assume the same risk. Other people's money implies a responsibility; hence the banks provide enormous reserves of liquidity to protect their depositors. In addition, the industries which are the recipients of these funds are structured in accordance with the banks' financial requirements, not the other way round. In a word, the business cycle, so typical of Western capitalist societies, does not exist in the ordinary sense in this system.

The periodic cycles of recession and boom were largely imported into Switzerland from elsewhere and were the result of the failure or success of those industries in which Swiss banks had invested. When Swiss or Swiss-financed foreign industries failed, for any reason, they sometimes brought their financing banks down with them, but that was as much the fault of the Swiss banks as of the industry itself. Sometimes excessive concentration of lending and sometimes unwise management (nepotism, etc.) forced the banks into receivership, consolidation with other larger banks, or even complete bankruptcy. But these were not the cyclical expansion and contraction of credit so characteristic of Western economies.

During the more profitable years of the 1870s and 1880s, Swiss banks, instead of distributing dividends to shareholders to the extent they could have under the circumstances, preferred to provide additional liquidity, or 'special reserves', to protect their depositors against the leaner years to come – a kind of biblical solution to the practical problem once faced by Joseph. These were to become the famous 'hidden reserves' which exist today. However, by the turn of the century, worldwide industrial development meant many prosperous years for Switzerland and its banks, largely because of the increased export demand for the highly esteemed Swiss electrical equipment. This meant a corresponding industrial expansion to meet this growing export demand and enabled the banks both to provide for their hidden reserves and satisfy their shareholders.

Not only domestic industries were financed by Swiss banks at this time, but also foreign industries as well; indeed, it was a prosperous

period for the world and for the Swiss banks that participated in the world's industrial development. We can gain some idea of the enormous development within the industrial world and the corresponding effect on Swiss banking with a few figures for the largest of the Swiss banks (Table 2.1).

Table 2.1 Growth of the Swiss Bank Corporation

Selected years	*Balance sheet total (000's of S Francs)*
1872	35 305
1881	46 416
1888	27 507
1895	31 744
1900	161 400
1905	302 911
1907	364 477

Source: Bauer, *Swiss Bank Corporation 1872–1972* (Basle, 1972) p. 468.

From 1872 until 1895, twenty-three years, the Swiss Bank Corporation experienced no growth at all, merely fluctuating to a peak in 1881 and a trough in 1888. Then, in just five years, the totals of the balance sheets increased by a phenomenal 508 per cent, to more than double again in the next seven years. While we are unable to identify how much of these totals was due to foreign and how much to domestic investment, we can be reasonably certain that the Swiss economy alone could scarcely account for more than a quarter of this growth.

While the Swiss banks were not subject to periodic losses of confidence, characteristic of the Western banks, they, nevertheless, experienced their own series of bankruptcies. This was the situation during the years 1910–14, particularly among the newer banks formed during the massive growth period of the 1890s. Even the older, more established banks were threatened by losses of confidence during this period.

Somewhat typical of Swiss banks during this period was the excess of resource commitments devoted to land speculation, both in Zurich and in Germany. The prospect of quick profit is just as tempting to Swiss bankers as bankers elsewhere in the world, and the fine line between 'correct' and inflated land values is not easy to discern. In addition, there was a tendency to overlend to a single borrower, thereby completely tying the future of the bank to the success of that individual. Again, the prospect of high profits due to high interest rates in this case was tempting. While sound banking principles require that

a bank's resources be distributed over as wide a range of borrowers and industries as possible, these principles had to be learned from experience in Switzerland just as elsewhere.

When the major banks were approached to come to the assistance of the Thurgau Hypotheken Bank, the principal offender in this case, literally millions of francs were involved, and waves of distrust spread throughout the country. The lack of confidence was particularly strong in the canton of Ticino where three banks, two of which were founded in 1858, collapsed as a result of a failure of their Italian investments.

Subsequent to the banking crisis, Gottlieb Bachmann, a distinguished banker who later became chairman of the Board of Managers of the Swiss National Bank, identified four major causes of the crisis which read like a classic of how not to conduct banking affairs in Switzerland. They were (i) excessive mobilisation of resources toward a single borrower, (ii) nepotism in the advancement of loans, (iii) an insufficiency of liquidity, and (iv) too modest equity and reserve funds.[16]

Along with the banking excesses of the day, of course, was the entry in 1907 of the Swiss National Bank on the scene which meant the end of the right of individual banknote issue, an important source of funds for many of the smaller banks. In addition, the 'Accommodation Bill', a device whereby banks could acquire funds by discounting their own bill with a larger bank, was also ended. Therefore, two means by which smaller banks could acquire the necessary liquidity to continue operations were withdrawn.

These were the experiences which shaped the attitudes and habits of Swiss bankers which are so well known to this day. There were no periodic crises of confidence occurring at ten-year intervals; quite the contrary: waves of distrust could be traced to specific causes and weaknesses which could be eliminated by corresponding reforms of banking practices.

The Chiasso Affair is a modern example of precisely what could happen should a loss of confidence develop, as well as how such a loss of confidence may be avoided. As an illustration of the working system, it is worthwhile remembering in some detail the circumstances of this unfortunate affair.

As pointed out in Chapter 1 above, Swiss banks act as more than 'banks' in the ordinary sense of the word. They have fiduciary accounts with customers which they invest on behalf of their customers but which are entirely at the customers' risk; hence they are not included in the balance sheet of the banks. These fiduciary accounts (*Treuhandge-*

schafte) are a considerable amount, some 232 billion Swiss francs or about 32 per cent of the ordinary balance sheet total. Most of these accounts are in foreign funds invested in foreign countries.

During the 1970s, a group of lawyers (one a member of the National Assembly) developed an investment trust in Liechtenstein. Another member of the investment trust was the manager of the Chiasso branch of Crédit Suisse. The trust engaged in the process of collecting funds from Italy in Italian lire and investing these in the Euro-currency market – itself not at all unusual. What was illegal was that these funds were collected as Crédit Suisse fiduciary accounts but which were guaranteed by the trust in the same way as *ordinary* Crédit Suisse franc accounts, i.e. just as if they actually were entering the Swiss franc 'circuit' of bank lending. However, being fiduciary accounts they were exempt from withholding tax.

The 'trust' not only paid interest at 1 per cent above normal rate but also guaranteed to its clients repayment in Swiss francs. Thus the clients were enjoying a further advantage; since the Italian lira was steadily devaluing, when redemption time came they would enjoy the benefits of a hard currency with an advantageous exchange rate. It was here, of course, that the principal attraction of the trust lay. Indeed, it was so attractive that when out-payments were required by clients there were always sufficient in-payments into the trust for the obligations in Swiss francs to be met without the bank's knowledge!

The surprising feature of the entire scheme was that it continued undetected for so long. No one in the top management of Crédit Suisse suspected anything untoward until the final days when the scheme was detected. The entire 'conspiracy' was completely foolproof even to the point of falsifying minutes of imaginary meetings, etc. But, and this is the main point of the argument, in 1977 when the activities of the trust were finally discovered and the police called in, Crédit Suisse repaid all of the funds in Swiss francs even though the bank was not legally obliged to do so. Furthermore, the money was paid from hidden reserves so that the balance sheet of the bank appeared exactly as normal. Thus, while the scandal received worldwide press, confidence in Crédit Suisse and the Swiss banking system was absolutely unshaken.

There is no better example of the importance of confidence in banking than this Chiasso Affair. Indeed, if there is one single selling factor of the Swiss banks it must be precisely this – confidence. This is why it was absolutely imperative that Crédit Suisse honour the pledge of the manager of its Chiasso branch. A loss of confidence in Crédit

Suisse would surely have meant a corresponding loss of confidence in the Swiss banking system, and this would have had tragic consequences for the country. With about 32 per cent of balance sheet totals of Swiss banks (quite separate from fiduciary accounts which are not included in balance sheet totals) originating from foreign countries, it is not difficult to imagine the danger inherent in any event of this kind which threatens the confidence of the entire system.

BANKING SECRECY

While it might appear superfluous to discuss a somewhat sensational event in an economic analysis which this purports to be, banking secrecy is, in fact, the one most important single ingredient of confidence. Further, since confidence is the 'export earner' which Swiss banks make possible, secrecy is equally vital to the success of Swiss banking. Thus, while Swiss bankers *have* justified their reputation for solidity, security, and conservatism over the past century, banking secrecy has played an important part as well.

The matter of secrecy in banking began with the passage of the Banking Secrecy Act in 1934, designed to protect refugee funds which were, at that time, fleeing Nazi tyranny. Since then, it has become a crime to divulge the name of an account holder with severe penalties for the banker who breaks the law. It is this more than any other characteristic of Swiss banking which leads to the enormous misconception that Mafia criminals, unsavoury Latin American dictators, or underworld kings only need to open a numbered account in a Swiss bank to enjoy the fruits of their crimes.

The misconception appears to rest on three fundamental grounds. The first of these is that banking secrecy exists for the sake of the Swiss bankers themselves for whom it is an essential and integral part of banking confidence. By offering secrecy, so it is believed, bankers obtain more foreign deposits, hence more profit for themselves.

But the element of secrecy is not confined to Swiss banks alone. Other banking systems – Austria, for example – have even greater secrecy and anonymity, but they do not enjoy the same level of confidence. It is the domestic political and economic stability which Switzerland enjoys (in addition to the banking secrecy factor) which sets the Swiss banking system apart.

But this does not mean that the Swiss accept deposits without checking the background of the depositor. Quite the contrary: any

potential depositor, especially if the deposit is rather large, is carefully checked for a reference. Such a reference would be in the form of a letter from a reputable foreign bank signed by a senior official of that bank. That is standard banking procedure, the purpose being to identify criminals before they are permitted access to Swiss bank deposits.

But if the Mafia is so completely organised that it can secure signatures from any reputable bank, that is hardly the problem of the Swiss banker but a weakness of the law enforcement agencies and procedures of the country from which the signatures originate. Similarly, the classical argument against Swiss bank accounts cites tax evasion which is a civil rather than a criminal offence in Switzerland. But if the only way that the United States can apprehend its underworld bosses is by an arrest for income-tax evasion, this is a problem for the Americans to solve and ought not to be shifted onto the Swiss.

A second ground lies in the weakness of the banking system in the foreign country from which the deposits originate. Foreigners, quite simply, do not have the necessary confidence in their own banking systems; hence their deposits flee their own countries to Switzerland. Again, this is not the responsibility of the Swiss but that of the foreign nations themselves.

In some cases, Latin American dictators being a case in point, funds find their way to Switzerland in the expectation of a revolution. In these cases the Swiss can hardly refuse to accept them; after all, the two countries still have diplomatic relations, are on friendly terms, etc. The mere anticipation of a revolution in addition to the fact that the dictator may be quite as disagreeable to the Swiss as to anyone else is not sufficient grounds for refusing to accept deposits. The 'morality' (however defined) of the individual government is not rational grounds for refusing deposits, nor can Swiss banking rest on the arbitrary judgement of right and wrong as set forth by western democracies.[17]

Nevertheless, despite the banks' screening process, there will exist some 'unsavoury' funds in Swiss banks just as in any other banking system.[18] This brings us to our third ground. Deposits in Switzerland are re-invested somewhere in the world, perhaps in the very country whence they originated. Nothing is wasted, so that funds which derive from oppression or even crime which escapes the vigilance of the authorities are put to use somewhere. This is what banking is all about.

One arrives rather quickly at the economic trade-off question. Secrecy greatly enhances confidence, but so does political and social stability. For the Swiss to forgo either means that capital will no longer find Switzerland such a safe haven. It will seek alternatives, the next best banking system, and there is no reason to expect that that will make the world better off in economic terms.

SWITZERLAND'S MAJOR EXPORT

It is no exaggeration to argue that confidence is the strength of the Swiss banking system; without it, both the banks and, with them, a major source of foreign exchange earnings would disappear. Such a statement is by now almost trite. But what we are not aware of is the degree to which confidence in the Swiss banking system contrasts with confidence in banking systems of other countries. Swiss banks are an outlet towards which the world's deposits may escape in the event that other countries demonstrate a lack of confidence not only in their banking systems but in their political structure, the economic circumstances which happen to prevail at the time (as manifest, for instance, in the foreign exchange values of their currencies), and their social systems. It is not so much the high degree of confidence in the Swiss system as it is the lack of confidence in their own circumstances which exists in the minds of the citizens of very many countries in the world today. A police state finds it very difficult to enforce exchange controls to prevent capital flights.

When such flights occur, deposits are lost to the banking system of a country. Likewise, foreign exchange is lost to the central bank of that country. Such lost deposits are, generally, savings in some form or another and thereby justify the term 'lost capital'. The deposit function in Figure 2.1 above shifts upward, causing a higher interest rate in the capital-losing country than would ordinarily be the case. To some degree, especially in the case of neighbouring France or even Great Britain, the capital returns whence it came to be invested in some project which would possibly be of greater economic value than if the capital had remained within the country in the first place.

The fiduciary accounts, those accounts not included in the balance sheet totals, for which the depositors themselves must accept the risk, are a 'turntable' on which foreign deposits never enter Swiss circulation but are immediately invested in foreign countries. These, again, rest entirely upon confidence. It is the administration of these accounts

as well as the investments of the great private banks which had given rise to the undeserved epithet, 'Gnomes of Zurich', which George Brown and, later, President Nixon used to describe the actions of Swiss bankers in bringing down the value of sterling and the dollar. In seeking to protect the values of their clients' deposits during periods of high foreign exchange risk, the bankers simply shifted from the weak currency into a stronger currency and the resulting sale of the weak currency helped to bring about the devaluation.

It is an absurdity, therefore, to attribute to the 'Gnomes' the responsibility for bringing down the foreign exchange values of both those currencies. All of the underlying market forces of supply and demand, inflation, balance of payments, etc., which are to a large extent the responsibility of both Great Britain and the United States, were and still are the real cause of the collapses in value of their currencies.

Seeking a scapegoat for their currencies' decline in the form of Zurich bankers is easy enough because not very many people understand the Swiss system of universal banking. Unlike the American banks, which are constrained by the Glass-Steagal Act into a single banking function, Swiss banks do more than collect deposits – they offer a complete financial service for clients. This includes investments in stock markets, underwriting bond issues, etc. roughly similar to what the British banks have been doing since the 'Big Bang' of October 1987. But the Swiss have been doing this for a hundred years, and the profit deriving from one activity complements that of another when the two activities are countercyclical in nature.

THE STRUCTURE OF CONFIDENCE

Banking confidence, important enough as it is to individual banks, varies among countries in its significance. In the United States, with its very many banks under a combination of Federal and State jurisdiction, bankruptcies are a fairly common occurrence, especially during recession periods.[19] There is no question of the American public losing confidence in the financial system of the country as a result of these bankruptcies. In Canada, on the other hand, a bank failure could 'snowball' into a general loss of confidence in the banking system because the number of banks is very much smaller. The recent collapse of two Chartered Banks and the purchase of another by Lloyds is indicative of what can happen when confidence is lost.

Canadian banks are dangerously exposed to Latin American lending and, of course, to the bankrupt Dome Petroleum as well as to other resource-based industries.[20] But even more important is the fact that 'free' liquid assets in Canadian banks – those assets available to honour deposit withdrawals – are very low relative to deposits: only about 7.4 per cent.

By way of contrast, foreign deposits would quickly cease to flow into Swiss banks should a loss of confidence, or, for that matter, a threatened loss of confidence, occur. This is why both the very high level of liquid assets and the hidden reserves are available for the protection of depositors. In addition the loan exposure of Swiss banks has considerably less risk than those of other banking systems.

Obviously the greater the dependence a banking system has on foreign deposits, the greater its exposure to the dangers of a loss of confidence; hence the greater the provision for loss of deposits in the form of liquid assets should be. Canadian banks, which have rather recently moved into the field of foreign deposits and foreign lending, have yet to learn these elementary lessons – the lessons, incidentally, which the Swiss have learned very well during the past century.

It would be futile to forecast, Cassandra-like, the demise of the world's banking system, or even the end of any major banking system because of a lack of sufficient liquid assets. Most countries have provision for the assistance of banks in difficulty through their central banks; this aid generally amounts to simply increasing the domestic money supply.

It would, however, not be futile to expect massive adjustments in our world financial system. Such adjustments would consist of a realignment of risks among banks, particularly in the international lending field, and among those institutions most qualified to accept risks. The World Bank, or IBRD, for example, could act as an intermediary, accepting funds through the sale of its bonds and re-lending to higher-risk countries on the basis of projects rather than loans to countries. Banks interested in foreign lending could channel their funds through the World Bank rather than directly to the countries concerned. Similarly, other specialist institutions could intermediate between high-risk countries with less liquid banking systems and those countries with surplus liquidity. The best examples of such institutions, as is argued in subsequent chapters, are the Euro-banks themselves.

The structure of confidence, then, is no longer confined to a single banking system in a single country. We can expect that should an

unfortunate circumstance such as the complete refusal of the Latin American countries to honour their obligations occur, massive waves of non-confidence could sweep from country to country bringing down banking system after banking system – except the Swiss. With their huge hidden reserves, with their minimal exposure to Latin American lending, the Swiss banks would certainly remain intact; indeed, they would likely find that even greater amounts of outside capital than ever would seek refuge in the Swiss banks in the form of foreign deposits or even fiduciary deposits. Such is both the nature of confidence when it is lost in countries outside of Switzerland and security when confidence is maintained in the Swiss banking system.

3 Euro-Banking and the Swiss Banking Paradigm

THE BANKING PROCESS

The post-Second World War period has been by far the most significant for the development of Swiss banks. Its significance lies in the fact that during this period, borrowed funds increased to become the most important part of the balance sheet funding for the major banks of Switzerland. Otherwise known as 'outside funds' (*Fremde Gelder*), these became the source of the banks' resources to be used for lending. The banks' own resources, capital, retained profits, etc., steadily declined in significance. It is in this decline that we can begin to recognise the process of evolution toward the ultimate 'engines of credit' that Saint Simon had originally conceived.

In reality, the Swiss Credit Bank was developing into the modern version of the Universal Bank, which borrowed from the public, on the one hand, and loaned to another segment of the public, on the other. Banks were actually lending what was entrusted to them.

But what, precisely, *is* entrusted to them? The answer here is liquidity. The banks borrow liquidity from the public in the form of (to use the Swiss terminology) outside funds (*Fremde Gelder*) and lend that liquidity to a customer who wishes to use it for a credit-worthy purpose. But there cannot be two liquidities working at the same time to the same degree – the bank's depositor, the original lender, must surrender his liquidity in order that the borrower may have it. The genius of the banking system is that, though individual depositors may retain their liquidity, depositors *as a whole* have less liquidity. This is accomplished in either of two ways: (i) an individual depositor surrendering liquidity as in a savings deposit, or (ii) a continuous roll-over of deposits among depositors so that each individual depositor need only forgo a relatively small amount of liquidity.

LIQUIDITY AND THE FUNCTION OF BANKING

Liquidity is really what is important here. It can best be defined by reference to what is liquid and what is non-liquid. Non-liquidity refers to assets which cannot be readily transformed into purchasing power.

One might consider real assets with little or no market for sale (land, buildings, etc. during periods of economic slump) as typical examples of extreme non-liquidity. Pure purchasing power, cash, gold, etc. would constitute pure liquidity at the other extreme. Intermediate assets between these two extremes would represent varying degrees of liquidity.

In the final analysis, this is what credit banking must mean. Banks are still intermediaries in the sense that they intermediate between lenders and borrowers and do so by means of their own available liquidity, which includes a cushion of their own liquidity in the event that other depositors cannot be readily found. Thus, when a depositor wishes his deposit returned (or, more correctly, re-converted into pure liquidity), the bank locates another depositor who is willing to surrender his liquidity. In effect, depositors pay each other, and all of this takes place without recalling the loan from the borrower. This is precisely the meaning involved in the analysis of the Deposit Market and the Credit Market in Chapter 2.

Should all depositors require their liquidity at the same time, banks, having exhausted their own liquid assets, would be forced to demand repayment of loans, etc. It does not require much imagination to appreciate what could take place if borrowers were forced to liquidate their assets in such an unfortunate circumstance. The markets for investments half-constructed, machinery not yet in place, etc. would be flooded with an excess of market supply relative to demand. Prices would collapse and the economy would certainly experience a recession. In most instances, the process is the other way round. The recession occurs, *then* a forced market liquidation follows as banks 'scramble' for the necessary liquidity to honour their obligations to depositors. Only in the extreme cases have banking panics preceded recessions.

When the functions of banks are considered from this point of view, money *per se* is of little importance. Credit banking, then, is not merely a method of manufacturing money, thereby creating assets from 'nothing', but a means of bridging equal and opposite liquidities. When this occurs successfully, assets can be created. In this sense credit banks (clearing banks, commercial banks, etc.) are really not very different from any of the other institutions which also bridge liquidities. The only difference, which is really quite superficial, is that the credit banks, or commercial banks, issue claims against themselves in the process of bridging liquidities while the other financial institutions do not.

In terms of economic theory, the classical quantity theory of money

really has little significance. In the equation of exchange, money determines the price level if production and velocity are constant, at least in the short term. A liquidity analysis, on the other hand, considers money to be the result of equating both liquidity preference and the reward for forgoing liquidity, i.e. interest. When liquidity preference is strong relative to the interest rate, money (pure liquidity) will increase in supply. Conversely, of course, higher interest rates will increase the cost of holding pure liquidity and the supply of money in circulation will decline.

Seen from the point of view of liquidity, the Swiss banking system can be readily understood. We recall in Chapter 1 that the banks of Switzerland, like banks elsewhere, were in a growth process during the latter half of the nineteenth and the early twentieth centuries. Their growth rate was, in fact, quite unwarranted in relation to the gross national product of the country, its population, resources, etc. The result was that foreign lending absorbed the extra energy of the banking system, that which could not be utilised domestically at the same interest rates.

There were some occasions when sections of the Swiss public, notably in agriculture, actually objected to the export of capital (which is what 'energy' in the sense used above meant to the Swiss), preferring instead that the banks satisfy domestic demand for capital first. In deference to these interests, the Swiss National Assembly eventually revised the Banking Act so that any foreign borrowings over the value of Sf 10 million for one year or more must have the prior permission of the National Bank before lending.

In spite of these conservative (or reactionary) interests, the Swiss banks continued to expand to seek the higher interest rewards which in many cases were to be earned in foreign countries rather than in Switzerland itself. How was it done? The answer is simplicity itself once we escape from the orthodox Keynesian idea that banking is a national industry by means of which (i) savings are transformed into investment and (ii) domestic money supply is created by an artificial loan/deposit mechanism.[1]

We must start, in the Swiss case, with deposits from either foreign or domestic sources which are acquired by the banks. These deposits must represent a sacrifice of liquidity to some degree. Now, since Swiss banks make loans to whomever and wherever the interest reward is the highest, consonant with the apparent degree of risk, a transfer of liquidity takes place to the borrower. This borrower may be either foreign or domestic.

The mechanism of liquidity transfer, via the monetary systems of foreign countries, involves the foreign exchange markets as opposed to liquidity transfers within the country. Just about the only requirement is that the Swiss bankers be thoroughly familiar with the country which receives the liquidity (or investment in this case), so that when the liquidity is eventually required by the banks, it will be readily available. The United States during the post-Civil War period was just such a country which could provide the liquidity virtually upon demand. This is why the USA was a preferred country in which to place investment. In a word, Swiss bankers could not invest in wild, 'fly-by-night' projects in foreign lands and still honour their liquidity requirements to their depositors.

When loans were (or are) made within Switzerland from the liquidity made available from foreigners, the same principle applied. There was little difference between foreign and domestic loans, because, with an excellent foreign exchange market capable of diverting liquidity either to Switzerland itself or to other countries, the currency itself becomes unimportant. It is unimportant because currency merely acts as a conveyor of liquidity, no more. What is important, though, in the case of Swiss lending is that the loan to a country constitutes a temporary addition to that country's foreign exchange reserves, and, conversely, the acceptance of foreign deposits constitutes a reduction in that country's foreign exchange reserves.

The reliance on foreign funds on the part of the Swiss banks has been growing considerably since the end of the Second World War. Of the balance sheet totals, foreign funds amounted to less than 10 per cent immediately following the war. By 1971, this proportion had grown to 39 per cent, a substantial increase.[2] The freeing of currencies for international payments during the post-war period, and the enormous prestige of the Swiss franc, account for much of this increase, but we should not overlook the fact that the banks themselves and their efficiency in liquidity intermediation were primarily responsible.

THE LOGIC OF BANKING

All modern banking systems, including the Swiss, are subject to control by their governments. The methods of control may vary among countries, but there is one method which all seem to have in common – a tax is imposed on deposits. It is, incidentally, this 'tax' which is in the form of a ratio of reserves to deposits which is used as the reciprocal of

the bank multiplier in elementary texts on the subject. The tax takes the form of a certain volume of liquid assets to be deposited with the central bank. In Switzerland, this consists of a Giro balance in the National Bank; in the USA, a deposit balance with the Federal Reserve; in Great Britain, a clearing balance of deposits with the Bank of England, etc. Such balances are a tax because interest is not paid on these balances and banks lose revenue as a consequence.

Contrary to what traditional banking theory tells us, the tax on deposits is raised or lowered, not to restrict the quantity of deposits, but to increase or decrease the cost of operation to the banks, depending upon whether money is 'tight' or 'easy'. Tighter money results in increases in the amount of interest-free balances at the central banks and makes it more costly for each bank to bridge the liquidity requirements of both depositor and borrower. Banks must, therefore, encourage depositors to forgo additional liquidity with higher interest rates and pass on the extra cost incurred thereby to the borrowers.

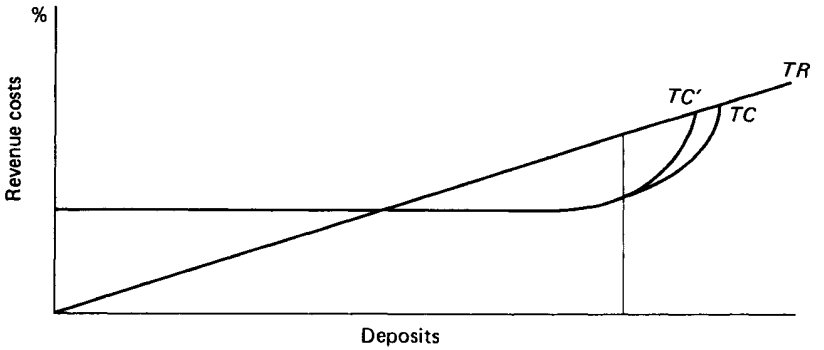


Figure 3.1 The cost/revenue banking construct

This is all that is accomplished by the reserve requirements, a method of raising or lowering interest costs to society. Just to gain some concreteness from the analysis, consider Figure 3.1. On the horizontal axis deposit money is measured; it does not matter how it is defined so long as it is consistent. On the vertical axis the costs of deposits and the revenues from lending as a percentage (interest) are measured. We can readily lay out the total revenue function, *TR*, and total cost function, *TC*, to show the spread, profit, between the two functions. We note also that many of the costs of banks are fixed until

money becomes 'tight' (in the traditional sense) and additional balances in the central bank are required. This increases the tax along with additional deposits forcing interest costs on deposits upward, i.e. total costs now include variable costs of growing significance.

The spread between the two functions, the surplus of the banks, arises because of the differences in liquidity requirements as between depositors and borrowers. The greater the capacity for the banks to accommodate this liquidity difference, the greater the banks' profits.

There are inherent difficulties involved in bridging liquidities, as the Swiss bankers discovered long before the Swiss National Bank, with its reserve requirements, came into existence. Since the liquidity requirements of depositors must be met, and since the borrowers' liquidity can never match that of depositors, some liquid assets must be retained. Included here would be not only reserves but the banks' own funds, i.e. capital, retained earnings, and the like. Again, since these 'own' funds are non-interest-bearing, to provide for adequate liquidity means holding some funds back from lending and acts as a 'tax', albeit a 'non-statutory' or voluntary tax. Once more, prudence dictates that the *TC* function must bend upward. An increase in the ratio of reserves to deposits would shift the *TC* function upward to *TC'*.

Other banks appear not to have learned from the Swiss experience. They have avoided the upward bending *TC* function by shifting their deposits into foreign deposits. The advantage here is that no legal reserve requirement exists on foreign deposits. In recent years this has become an extremely popular, and lucrative, form of lending, and, since bridging the liquidities of borrower and lender has become relatively easy with new and more versatile types of lending, demand for such loans has grown enormously since the 1950s. These are the Euro-currencies which have grown in volume phenomenally over the past thirty years.

THE BANKING/MACROECONOMIC CONFLICT AND THE EURO-CURRENCY

It is unfortunate that bankers and economists do approach the banking reality from different viewpoints, appropriate to their respective disciplines. As economists we have become accustomed to think in terms of the structures of economics, particularly macroeconomics. This poses a problem because it precludes from our thinking another point of view, equally valid and certainly very appropriate for the

analysis at hand. Very much of the confusion which still exists in the interpretation of foreign currency banking (Euro-currency banking in particular) is certainly due to the differences in the initial premise.

As we have seen, bankers are concerned with their liquidities: more specifically, the ratio between their liquid assets, including all their own resources which can be drawn upon in the event that a substantial proportion of their loans become 'non-performing', and their deposit liabilities. The ratio between these liquid resources and their total deposits, therefore, is very important to them and must not be permitted to decline below a certain safety level.

Suppose, for instance, that a depositor in a hypothetical country decides to forgo the liquidity of his bank deposit by converting his deposit into a long-term savings deposit. The banker, having guaranteed a suitable reward to his client, has now acquired an amount of liquidity. In macroeconomic terms, an economist might suggest that savings have thereby increased and unless converted into investment will result in a decline of aggregate demand. But let us ignore this for the moment.

The banker in this hypothetical country will seek to sell his additional liquidity at the highest price since he must cover his costs plus a margin for profit. He can either do this domestically, or, by virtue of the modern technologies of the foreign exchange market, 'sell' his newly acquired liquidity abroad. While he may well be unaware of the liquidity requirements of customers in other countries, intervening distance, language, etc. being genuine obstacles, he can accomplish the same objective via the Euro-currency markets. It is the Euro-banks which do know who and where the final borrowers are who require the liquidity which the banker in the hypothetical country wishes to sell. An absolute essential here is a sophisticated foreign exchange market.

The Swiss have been performing this function for a hundred years. They have provided the foreign exchange market, in the first place, and have, through their branch banks in other countries, identified the liquidity requirements of other countries in the second. Only recently have specialised markets and the Euro-banks entered the field, but the fundamental principle has not altered in the slightest.

Suppose a Euro-currency borrower desires short-term liquidity in a certain week and approaches his Euro-bank for accommodation. The loan would, presumably, be required to meet certain expenses in that week and the borrower may not be in funds until the week following. The borrower could be provided with Euro-funds, would exchange these for his own funds, spot, and sell these funds via the forward

exchange market back into the specific Euro-currency in one week. In this way the borrower has been provided with short-term liquidity by the Euro-currency market to meet his expenses. The liquidity was provided by the banker (and the long-term depositor, of course) in the originating hypothetical country.

The banker has recognised the additional profit available to him by lending via the Euro-currency market rather than in his own domestic market. Now, suppose the Euro-currency loan is actually a long-term loan, a Euro-bond, for which interest rewards are higher in foreign markets than in the domestic economy. This means that the original excess amount of liquidity will be used for production in another country where the marginal product of capital is higher than in the original country of the lender. World production increases as a consequence.

Some economists have long been concerned about the existence of a Euro-currency 'multiplier' and the worldwide inflationary potential of huge amounts of Euro-currencies. These amounted to some 2 trillions of dollars in 1986 (see Table 9.6 below). Seen from the bankers' point of view such concerns are irrelevant. Noting that the money supply of the original country has not changed, we might still ask the question, as a macroeconomist might, what about the savings which have taken place as a consequence of the depositor forgoing liquidity? Ought these savings not be channelled into domestic investment so as to protect domestic employment? In the Swiss case this poses no difficulty because the Swiss economy alone cannot provide bankers with sufficient domestic investment outlets to compete with the higher marginal product of capital abroad. In the case of other countries, the transfer of liquidity from savings in a country with a lower marginal product to a higher marginal product elsewhere in the world enhances total world output.

The macroeconomic savings/investment equality to maintain full employment within a country is essentially a nationalistic argument hardly appropriate to the world of the twenty-first century. The argument is similar to that of the protective tariff concept which discourages imports of those products which compete with domestic production. There is really little ideological difference between the tariff and the idea that we should keep our investment at home to enhance our own employment prospects before investing abroad. Certainly the macroeconomic models which assume 'closed economies' imply just such a nationalism, and when extended to fixed exchange rates in open economies, suggest further that economic

policies in individual economies can produce full employment in isolation. We would suggest that the world's banking systems have long passed that stage where such macroeconomic models have any relevance to reality.

Nor, for that matter, need we fear a world inflation due to a surfeit of Euro-currencies. Euro-currencies only appear when the foreign investment opportunities present themselves. It is a higher marginal product of capital which appears first, *then* the Euro-currencies come into existence so as to profit from the higher marginal product elsewhere. (See Chapter 7 for further theoretical discussion on this point.)

World inflation could indeed arise from the actions of world bankers who imprudently invest in projects which have little or no hope of enhancing world production, but this is certainly not true of the Swiss banker who carefully selects his projects on the basis of their earning potential. It is conceivable also that some bankers might use Euro-currencies for the purpose of purchasing government securities in a country which attempts an anti-inflationary monetary policy through high interest rates. Should such be the case, the policy may well be frustrated through the flow of Euro-currencies to that disinflating country. This would be the consequence, once more, of nationalistic monetary policies taken in isolation.

But what of the argument that the original saver who decided to forgo liquidity has reduced aggregate demand in his own country? Euro-currency deposits mean that only the ownership of the original deposit has changed. The original deposit is still intact and available for investment in the home country. Liquidity will likely be increased because of the change in ownership of that deposit, that is all, and this, as will be argued again in later chapters, is a banker's problem.

In the world of Euro-currencies amounting to trillions of dollars, it is likely true that excessive world demand for production during the 1960s and 1970s did contribute to the world inflation; i.e. economic growth was proceeding at a pace that the world's resources could not sustain. This we can recognise through the 20/20 vision of hindsight. And along with this excessive growth and excessive demand, problems of worldwide inflation and pollution appeared. Bankers will probably agree with economists at this point, but again this situation is the result of imprudent and excessive use of resources, not the fact of the existence of Euro-currencies.

What is important now is that economists cease to think in terms of savings and investment within their own national boundaries. A world

banking system spans these boundaries so that only world savings and world investment have meaning. This is the fundamental lesson taught by Swiss bankers and which is at last being learned by Anglo-Americans. It is also the great achievement of the Euro-banking system.

THE SWISS UNIVERSAL BANK AND THE EUROPEAN CAPITAL MARKET

In the preceding chapter it was argued that the Swiss Universal Bank has achieved a level of economic efficiency which exceeds the commercial banks of the Anglo-American systems. This efficiency derives from the fact that the Swiss banks more closely approximate the marginal social product of capital than the commercial banks. This is the consequence of their capacity to participate in industry as a partner. Unlike their Anglo-American counterparts, industry and banking are actually one and the same process.

This partnership with industry does not stop with the banking process alone. The Swiss banks, as noted in Chapter 1, also operate as brokers in their own stock exchanges. In doing so they are the first to recognise the requirements of industry and its profitability. Additionally, they have performed very successfully in the business of underwriting bond issues for industrial purposes both foreign and domestic. Indeed, it is in this area that the famous Swiss capital market has its strongest and most lasting influence.

In the business of bond underwriting the Swiss have had a long history. But in fairly recent times the relatively low and stable interest rates in the Swiss capital market, relative to markets elsewhere, have ensured that Swiss banks never have had difficulty in locating first-class borrowers; indeed, they were fortunate in that the banks themselves could be very selective as to which potential borrower they could choose – the criteria being the credit standing of the borrower. Priority was generally given to first-class companies with assured foreign exchange incomes as well as to such institutions as the International Bank for Reconstruction and Development. Until 1963, Switzerland supplied more capital through underwriting than all other European centres combined.

In 1964 the US capital market was practically sealed off from Europe by the Interest Equalization Tax. This provided the necessary stimulus for the development of a European capital market with the Euro-bond

as the medium of investment. For the Swiss banks the unfortunate existence of the stamp tax for foreign securities underwritten in Switzerland acted as a deterrent to participation in this market within Switzerland. The result has been that branches of Swiss banks and the Crédit Suisse/First Boston combination in London have become leaders in the field of Euro-bond financing.

In a larger sense, the internationalisation of capital markets in this way has been as much the consequence of the growth of multinational enterprises. It is these which have the greatest demand for international capital; indeed, the corporate behemoths of our time, IBM, General Motors, ICI, etc., have simply become too large to be confined within the boundaries of a single country. Now, it is no exaggeration to say that very much of the world's production takes place outside the home country of the corporation. It is a world economy with no room for nationalistic full employment policies within individual countries.

This is why, from the capital supply side of international capital markets, a ready transfer of capital to other countries via the foreign exchanges is absolutely essential to the successful operation of the world economy which we have at present. It is precisely this which the banks provide in the form of Euro-bond markets. Far from being inflationary the Euro-bond markets expedite the movement of capital from where it is surplus to where it is in deficit. Efficiency is enhanced by the existence of these markets.

It is now quite possible for any bank with a surplus of foreign exchange deposits to have the option of lending its currency to Euro-banks, via its interbank deposit, thereby adding to the available funds in Euro-currencies. The likely location of such a Euro-bank is London, where by far the greatest numbers of such banks have offices in the City, but for the banks dealing in the Euro-Deutschmark, it is Luxembourg. Regardless of the location, the Euro-bank will find that its 'Euro-deposit' liabilities have increased by the amount of the loan and will readjust its assets accordingly. It will either lend directly to the Euro-market or join a banking consortium to, perhaps, float a Euro-bond issue. The real point is that there are two banks, the first being the one with the surplus foreign exchange deposits and the second, the Euro-bank, which will adjust its asset structures to increase its earnings potential consonant with its liquidity requirements. The risk of default is now assumed by two banks instead of one.

The result is that a European capital market, the rival of the New York capital market, now exists in London, Paris, Luxembourg,

Brussels, etc. and is thriving. Interest rates in this European market are generally higher than in the New York market, a phenomenon usually attributed to the higher risk factor, so-called, in Europe. Since no legal reserve ratios are required in international lending, as opposed to domestic lending, there is a risk premium to be allowed for.

It would be difficult to conceive of a more efficient means of moving capital from surplus to deficit regions. Liquidity gaps are bridged by two banks instead of one, both combining to satisfy the original lender's liquidity requirements and the final borrower's need for illiquidity. Furthermore, the foreign exchange markets ensure the availability of the Euro-currency when loan repayment ultimately occurs. Indeed, the continuing process of change in the Euro-currency market, to develop new and hitherto unheard-of market instruments, testifies to its efficiency as a capital market. The magnitude of change can be seen from the apparent beginnings of a Euro-equity market which, to all intents, has the appearance of a domestic equity market. An excellent example of this was the 12.6 million shares of Bell Canada offered in July 1983 with the help of a syndicate headed by the Union Bank of Switzerland.[3]

It would, of course, be absurd to argue that Euro-currency markets cannot be a source of potential destabilisation of the foreign exchange market. This they are and have been in the past; in fact, we know that exchange rates are now determined almost entirely by capital movements and no longer by the balance of trade as in former times. The Bretton Woods System was effectively destroyed by the enormous movements of capital in anticipation of devaluation, i.e. by an unwarranted and unsustained exchange overvaluation on the part of nations.

At the same time, in determining these exchange rates, an overshoot often occurs, increasing the instability of the rates. This is, in many cases, the consequence of a conflict between the free market for capital and the economic policies of a country which attempts to determine exchange rates in accordance with the decisions of the government of the day. Once the government succumbs to free market forces, a time lapse is often required during which the market values fluctuate rather widely before the true, or correct, price is determined.

Helmut Mayer in a BIS pamphlet makes the important point that Euro-currency transactions do have an effect on exchange rates.[4] If, he argues, a German industrialist borrows Euro-dollars and exchanges them for DM, the result must have a depressing effect on the US dollar *vis-à-vis* the DM unless the Bundesbank intervenes to stabilise the

dollar; hence, in the final analysis, the effect on the foreign exchange markets of Euro-currency transactions will depend largely on the actions of the central bank.

But the important effect of the Euro-currency markets on the foreign exchange markets, from Mayer's point of view, has been to separate currencies from their respective countries, i.e. a geographic separation. Should, for instance, the Euro-bank which receives Euro-dollars lend to borrowers within the United States, there would be no effect on the foreign exchange market. On the other hand, should, as suggested above, the banks lend Euro-dollars outside the United States, the exchange market would be very much affected.

But the most important result of the Euro-market, argues Mayer, has been to increase the international mobility of capital whether or not the exchange rates are affected in any way. With that we can wholeheartedly agree. At the same time, however, high capital mobility locks together the interest rate movements within the various countries by these same movements of capital because of the opportunities which exist to take advantage of any slight interest differential. This is especially true when forward foreign exchange markets ensure the exchange rate of the currency in advance when foreign capital is to be repatriated.

In the case of the OPEC oil surpluses, Mayer argues that Euro-currency markets did assist in redistributing these surpluses more evenly throughout the world and, to that extent, probably minimised the instability of exchange rates which would have otherwise resulted had there been a concentration of lending to a relatively few countries. However, the difficulty here was that there was no 'domestic investment counterpart' of these loans which could cover the increased interest cost. When such loans only assist the countries in meeting their balance of payments deficits, which arose because of higher oil prices, there is no direct source of additional income which can defray the rising costs of higher interest payments.

THE DEBACLE

By the time of the first oil price increase during the early 1970s, Euro-markets were well established in their policies of lending to business enterprise. What they were not prepared for, and had no market guidelines to follow, was lending to governments on the increasing scale required by the higher cost of oil imports. More specifically,

loans to governments were unaccompanied by corresponding investment projects which could generate cash to repay the loans. General economic growth was the means by which Euro-loans were supposed to be repaid with identifiable assets being created by investment of the loan proceeds.

But rates of economic growth are subject to considerable variability depending upon external factors as much as internal. World interest rates can change, or world recession can reduce the imports from those debtor countries making it more difficult for them to earn the foreign exchange with which to defray their debts.

The magnitude of the problem can be recognised from the figures extracted from the address of O. Aeppli, president of Crédit Suisse, to his shareholders and included in Table 3.1.[5] While the total amount of foreign debts outstanding to less developed countries from banks had multiplied by over six times during the decade, the interest payments had multiplied by 8.8 times!

Table 3.1 The growth of loans to LDCs and servicing costs, 1970–80

	Loans to LDCs	*Servicing Costs*	*Ratio*
1970	$72 Billion	$10 Billion	13.9%
1975	$180 Billion	$27 Billion	15%
1980	$451 Billion	$88 Billion	19.5%

By 1983 the debt had grown to $755 billion, $355 billion, or 47 per cent of the total, being owed by ten countries with free market economies.[6] These ten countries, incidentally, contained 13 per cent of the world's population and produced 8 per cent of its gross national product. At the same time they were (and still are) essential to the survival of capitalism as an economic and political system. One can hardly imagine the consequences of revolution within these countries in terms of the impact on the wealthier industrial nations of the west. Indeed, it is no exaggeration to argue that the free market economies of these countries must survive if only as a means of ensuring the survival of capitalism in the world.

Some of these ten countries (the list is made up of Argentina, Brazil, Mexico, S. Korea, Peru, Venezuela, the Phillipines, Chile, Indonesia, and Nigeria) cannot be considered as economic 'basket cases' or even in the category of emergencies. The South Korean economy, for instance, is performing exceptionally well. Nevertheless, it has

become very obvious that the possibility of debt repayment within the foreseeable future is very small. The amount owed by Brazil alone, one of the ten countries, is staggering – some $90 billion, roughly equal to the shareholders' funds of the twenty largest banks in the world.

One is justified in asking the question, what went wrong? Is it conceivable that a highly efficient Euro-currency market could have made such errors in judgement? The answer clearly lies in the fact that it was not the Euro-banks which were lending to these countries and which had actually overloaned to such a serious extent. The commercial banks, especially the US banks, were also involved in direct lending to the Latin American countries. While accurate statements of the amount of direct lending by commercial banks are difficult to obtain, one estimate identifies 66 per cent of total lending to the fifteen largest borrowing countries as commercial bank lending.[7]

Effectively by-passing the Euro-banks, such loans involve the highest risk, in the first place, and escape the mechanism of domestic control in the second. There are no reserves required in foreign lending, hence the 'tax' with which domestic deposits are burdened is avoided. Pure 'Euro-currency loans', on the other hand, involve at least two banks, one in the originating country and the other, generally, in London. Both banks in the Euro-currency cases are obligated to ensure the liquidity of their depositors. When commercial banks lend directly to foreign countries without the additional intermediation of the second bank, the risk is entirely that of the originating bank alone. This is the essential difference between the two types of lending.

Pierre Paul Schweitzer in a somewhat lengthy discussion paper noted these changes in bank lending techniques.[8] He observed the existence of three main problem areas in international finance which have appeared in the decade of the 1980s. The first is the growth of commercial bank lending in a highly competitive environment through off-shore markets. The second is the volatility and tendency toward overshooting of exchange rates, and the third is higher interest rates combined with the irregular growth in international reserves and the money supply in various countries. (Areas one and three are included in the discussion immediately following, while the second, volatile exchange rates, is analysed in depth in Chapter 7.) It is the disequilibrium in these areas which threatens to bring about protectionism and a dangerous and undesired deflation in the world economy through a reaction on the part of governments that experience these disequilibrating circumstances.

The first problem area was, according to Schweitzer, the funda-

mental cause of this disequilibrium. It was the growth of credit in the post-war world. Credit has displaced capital as a method of financing investment. The phenomenal growth of credit has been made possible by the means of roll-over loans, i.e. the use of short-term lending to finance long-term investment.[9] This makes possible interest rate adjustments whenever the short-term loans mature and must be renegotiated, thereby reducing the risk of interest variability to the banks. Furthermore, credit, being outside the control of national monetary regulations, means that its limit of extension depends only upon the decisions of individual bank managers. As we know, this has often been well beyond the limit of accepted banking wisdom. Indeed, in some cases, commercial banks were providing medium and long-term credit (via the short-term rollover mechanism) for balance of payments purposes and even, according to Schweitzer, consumption purposes.[10]

To a certain degree, there have been advantages in these loans. Certainly the enormous OPEC oil surplus has been recycled in this way, and there has been an international pool of liquidity to draw upon when required. However, there are disadvantages in that exchange rates have been destabilised with movements of loan funds into a country and exchanged for the currency of that country, as H. Mayer had rightly argued.

Schweitzer also insisted (an argument with which we disagree in Chapter 7) that such bank lending has had a 'certain inflationary effect' on the world economy, in that purchasing power has been made available to borrowing countries and had no counterpart in a corresponding loss of purchasing power elsewhere. But more important is the fact that borrowing governments have been able to postpone the inevitable economic adjustments (reduction of fiscal deficits as well as balance of trade deficits) in the interest of maintaining their domestic popularity and thereby ensuring their own continuing power. This has made the task of the IMF in its role as adviser and consultant in economic matters more difficult. Herein lies the major thrust of Schweitzer's argument in this problem area.

The third problem area which Schweitzer identifies, higher interest rates combined with a mal-distribution of international reserves, is more subtle and more intractable. Since these commercial bank loans are denominated in US dollars and require payment in that currency, the monetary policy of the United States has a predominating influence on the economies of those borrowing countries. Recalling that short-term loans of commercial banks are rolled over to accom-

modate medium and longer-term loans with interest rates determined by the banks at the time of rollover, the borrowing countries are subject to changing interest rates (rising or falling) depending upon the policy being followed by the United States. It is these policies which have resulted in the very high servicing costs of these debts, as noted in Table 3.1 above.

This is a serious matter because we know that in North America new forms of deposit accounts have been developed to accommodate bank customers. Chequing accounts, for instance, now earn interest, as opposed to former years when the banks' customers had every incentive to minimise current account balances because no interest was earned on these accounts. Any increase in the interest rate in the US banks, therefore, will have a minimal effect on the amount of funds retained for transactions purposes. Since the purpose of tight money and consequent higher interest rates in the USA is precisely that, to reduce the amount of transactions money, the modern chequing account, since it now earns interest, lowers the elasticity of response of M_1 relative to changes in the rate of interest. Very large increases in interest rates will, therefore, be required to effect a tight money policy.

There is considerable statistical evidence to suggest that this has indeed been the case during the recent periods of anti-inflationary policies followed by the Federal Reserve Board. The more efficient use of money balances forced by these policies has resulted in wide swings of interest rates as the monetary policy of the Fed has changed from a monetary control objective to a lower interest rate objective.

Over the longer term, however, the anti-inflationary tight money in the United States has meant a general increase in bank interest rates, so that commercial banks, to recoup their higher expenses, have been forced to push up their rates on short-term roll-over loans to foreign borrowers as well. This general upward trend has caused serious difficulties for the chronic debtors who have found that their interest costs are steadily rising.

In his IMF essay, Carlos Langoni, former Governor of the Bank of Brazil, joins with Schweitzer in identifying high interest rates as the major difficulty facing the borrowing countries.[11] But this is all they have in common. Speaking for the less developed countries that have borrowed heavily from commercial banks, Langoni argues that the banks were lending on the basis of free market, profit-oriented motives. Their foreign loans were actually substitutes for domestic loans which had ceased to be so profitable. Unfortunately for banks, the free market for investment purposes, argues Langoni, does not apply in these countries.

Long-term investment undertaken by government policy requires stable interest rates. In such cases the lender has the security of the state itself as a guarantee for the loan. The same loan undertaken by free market forces would require security to protect the lender in the event of bankruptcy. Under the latter circumstance the tight money policy of the governments of the lending countries forces up the interest rates, and this action on the part of these governments cannot be considered as 'free market'. Borrowing countries, according to Langoni, require protection from such policies.

It is easy to sympathise with the borrowing countries, particularly regarding the interest rate argument. Langoni does, however, attach considerable responsibility for the debacle directly to the banks themselves. 'For every borrower there is a lender.' Again there is logic in this argument because, to the horror of many, commercial banks were, in recent years, actually lending from their very short-term interbank deposits. It was this latter discovery that brought the world's attention to a situation which had gone well beyond the levels of banking prudence.

THE LOGIC OF BANK LIQUIDITY

Consider a small country such as Andorra or Liechtenstein where it is quite conceivable that a banker (such a country may have just one bank) might know the liquidity requirements of the entire population. Further, consider that there are only two liquidities – one a current (or cash equivalent) liquidity and the other a completely illiquid savings deposit. The banker is aware that his clients, the public, structure their liquidity in a ratio of 3:1 – 75 per cent current liquidity and 25 per cent illiquidity. In such a case, the banker can loan to his clients an amount of 25 per cent of total liquidity.

Now suppose that a younger generation of banker decides to depart from the conservative practices of his father and, with the encouragement of politicians, expands credit by making loans beyond the 25 per cent of total liquidity to the local construction industry. Since the habit of the public has not changed, the additional credit will immediately cause difficulty for the banker because the public will demand its liquidity as normally and, since the additional loans are locked up in illiquid investment, the banker cannot access the liquidity he requires to pay the public. He could, of course, attempt to encourage more savings deposits (a greater proportion of illiquidity) and thereby reduce the liquidity demands of the public. But this violates the

original premise: namely, 'since the habits of the public have not changed'. In other words, in this small country, in order to satisfy liquidity requirements, additional funds must be 'created' and this requires the action of the government to provide for either more liquid deposits or more cash. An 'unholy alliance' between politicians and bankers, therefore, can result in dangerous inflation.

As economists we like to give lip service to the world's banking system, noting that it is really one world after all, and the surpluses of foreign exchange built up by OPEC are effectively recycled to less developed countries by means of this highly efficient banking system. The fact of the matter is that, in terms of liquidity, the world is no larger than Andorra or Liechtenstein, and liquidity cannot be created by a banking system; only the public can do that.

While it is true that the world's banking system has the advantage of the development of rollover loans and similar devices to encourage less liquidity on the part of depositors, the ultimate end, the inability to satisfy the liquidity requirements of depositors, signals the breakdown of the financial system whether it be that of a small country or of the world.

The error committed by western commercial banks lies in the assumption that credit banking, the expansion of credit on a credit base, is all that is required. Thus, the idea that excess deposits (excess relative to a reserve base) which accrue from whatever source, OPEC, etc., can be safely used for lending to any country which had a potential for repayment *appears to be at the root of the difficulty*. Banks believed that the means of repayment could arise from economic growth or from any other source, such as a potential for future oil sales. They had confused credit banking, as represented by the quantity of deposits, with liquidity, two entirely different concepts.

Swiss banks did not participate in this error. Their non-participation was not due to any lack of encouragement on the part of the central banks; indeed, at the time that petro-dollars were being pushed back into the banking system whence they came, the Swiss banks were urged to join with the rest of the world's banks to make additional loans available to Latin American countries. But their participation was extremely limited. Why?

There are some fundamentals of banking which the Swiss observe and which not only prevented the Swiss from following the leadership of the US banks but also highlight the differences in banking philosophy. These are as follows.

1. Swiss bankers look upon their bank deposits as not only *Fremde*

Gelder but as money not belonging to the banks. Money which is the property of banks is that which derives from the sale of shares in the corporation and from retained earnings. Not being their money, it behoves the bankers, then, to be prepared to honour their obligations to their depositors in full. In a word, liquidity must always be at hand in sufficient amounts for this purpose.

The Swiss take great pride in the fact that the capital values of their foreign deposits were intact after the catastrophe of the Second World War at the same time that the currencies of Europe were becoming worthless with rising inflation rates. In terms of banking theory, this has the result of balancing the liquidities of depositors against the illiquidities of investments, because providing liquidity from 'own' resources is precisely the same as accessing liquidity from investments at any time a depositor requires it. Note that it is *not* the same as locating additional deposits to finance the withdrawals of some other deposits in a kind of deposit roll-over mechanism.

The result of this is most clear from a few banking statistics. Of the fifteen countries in the Baker Plan, Swiss bank lending to those countries has amounted to just 6 per cent of total assets as compared with some 23 per cent for American banks. Or, relative to equity (the banks' own share value or 'net worth'), Swiss bank lending to these countries amounts to just 40 per cent, again compared with US banks 150 per cent of equity. To look at the situation slightly differently, if all Swiss loans to these countries were completely uncollectable, not half of the value of equity would be required to provide for the lost liquidity.[12] This contrasts sharply with the US banks which would have to provide additional funds to the amount of one and one-half times their equity.

Once more the question arises: why did the Swiss bankers not lend more despite the encouragement of their own National Bank? They conceived of the deposits in their care as not their own funds; hence the utmost caution had to be exercised to protect the liquidity of these deposits.

2. Conservatism. There is no doubt that Swiss bankers are conservative in outlook relative to their US or British counterparts. This stems, in a large measure, from their banking history which, in turn, evolves from their own economic history. A small country, Switzerland has little in terms of resources except the inherent intelligence of its people. This the Swiss have developed to the utmost in industry, banking and insurance.

Foreign deposits, of course, are vital to the success of the Swiss

banking industry. Since these must be attracted, practical experience has shown that these foreign deposits must be protected at all costs – even at the sacrifice of profits. There are, therefore, no 'prestige' projects financed by Swiss bankers. To the contrary, Swiss projects are quiet, unobtrusive, rather pedestrian, unlikely to attract world attention. Above all, they are financially sound with the highest security. This is why only about 5 per cent of Swiss lending goes directly to developing countries. (The Swiss are careful to point out that their contribution to world economic development exists, nevertheless, in the form of loans to the World Bank.)

This contrasts with the larger US banks which engage in much higher profile lending, often motivated by political factors as much as economic. Foreign policy sometimes appears to be a dominant influence in American bank lending; not so the Swiss, whose foreign policy results entirely from the determination to remain neutral.

3. Both these banking fundamentals suggest an entirely different banking paradigm from that which western monetarists are used to, but there is yet a third factor which must be considered as underlying the decisions of Swiss bankers. Foreign lending takes place via the foreign exchange reserves of the country. There is no 'Euro-Swiss franc' available whereby claims can be passed on via interbank deposits in the ordinary Euro-currency sense. This concentrates the factor of risk entirely upon the Swiss banks alone as opposed to the division of risk among many Euro-banks. They alone must assume the protection of their depositors.

This is why, first and foremost, the preoccupation of the Swiss banks is the protection of deposits. It is accomplished by having a high degree of liquidity and liquid assets. Let us consider the following sources of liquidity in descending order:

(1) In 1984, the ratio of purely liquid assets (cash, giro accounts, and accounts in process of transition) to the deposits of the public were as follows (in millions of Swiss francs):

$$\frac{\text{Cash, etc}}{\text{Deposits}} = \frac{19\ 136}{308\ 118} = 6.3\%$$

Including foreign funds this ratio becomes:

$$\frac{22\ 178}{431\ 562} = 5.1\%^{13}$$

(2) The Swiss Banking Act requires the holding of reserves quite apart from the above ratio. The banks, in addition, have a large excess of reserves which they maintain. In that same year, the reserves of the banks were: legal, 19 683, and 'other', 12 842. These reserves added to the above mean a ratio as follows:

$$\frac{54\ 703}{431\ 562} = 12.7\%^{14}$$

(3) Banks also have another ready source of liquidity and this consists of their capital ('social capital' in French) or 'net worth'. In 1984 this amounted to 19 683. This, added to the cash plus reserves, increases the ratio as follows:

$$\frac{74\ 386}{431\ 562} = 17.2\%^{15}$$

(4) But there is yet another source of liquidity available to Swiss banks. They maintain huge deposits with other banks. Thus, should any difficulty arise regarding payment of the deposits for any single bank, the deposits with other banks could be drawn upon, unless, of course, the banks which own these deposits are themselves bankrupt, a highly unlikely possibility. In 1984 these other bank deposits were 175 523. Including these in the liquidity pool brings the ratio to:

$$\frac{249\ 909}{431\ 562} = 57.9\%^{16}$$

Scarcely anyone could deny that deposit protection is adequate under these circumstances, especially considering that both foreign and domestic funds are included in the total deposits. Yet the analysis is not completely finished. There are 'hidden reserves', the amount of which is known only to the Banking Commission and can only be guessed at by the rest of the world. In the famous Chiasso Affair, which involved the loss of 2.2 billion Swiss francs, Crédit Suisse paid these from the hidden reserves so that its balance sheet and profit-and-loss statement were completely unaffected: that is, were it not for the unpleasant publicity surrounding the incident, it would have been impossible to detect that anything had happened.

The difference between the Swiss and Western banking paradigms is at once apparent. Suppose petro-dollar deposits are pushed into the banking systems of North America (USA or Canada). These deposits may be loaned either as domestic or foreign US dollar loans. In the event that the domestic loan market is inadequate (given low interest rates and recession conditions), the banks will seek the higher profit in foreign lending – it is as simple as that. Since the petro-dollar deposits remain within the banking system of the United States, it is only a matter of their being used for purchasing by the borrowing country while they circulate within the US banking system. The original petro-dollar deposits result in an easy money situation, and since no reserves are required for foreign deposits there exists no 'tax' on the ability of the commercial banks to lend to foreign countries.

But petro-dollars entered the Swiss banking system as well. There were indeed cautious OPEC countries that wished to take advantage of the security surrounding Swiss banks. Clearly, however, without substantive changes in the lending practices of the Swiss, it was not possible to increase loans to the same extent as in North American banks, for the reason that the Swiss banking paradigm required that a considerable amount of liquidity in the form of additional reserves, cash, and equity must be found. Furthermore, many loans must be made via Swiss bank branches in other countries and this precludes a large portion of direct deposit lending to less developed countries for the simple reason that the Swiss have no branches in those countries. Finally, considering that the OPEC deposits were 'other people's money' in the first place and must, therefore, be carefully used with the minimum of risk, it is hardly surprising that loans to the fifteen countries of the Baker Plan are only a very small proportion of total lending. The Swiss banking paradigm combined with the inherent conservatism of Swiss bankers precluded excessive lending to these countries.

We do not find these circumstances in North America. Quite the contrary: when one major bank proceeds to loan to Latin America (on the theory that nations do not go bankrupt), other banks, including less important ones, follow. Considering also that branches of the US banks are there, in Latin America, ready and available, conditions are ideal for loan expansion to those countries. Furthermore, the loan expansion will continue until the absolute limit of liquidity, according to North American standards, is reached. The result is the inevitable financial crisis which continues to the present time without any prospect of resolution.

It goes almost without saying that high interest rates which resulted from tight monetary policies exacerbated the loan repayment situation, as did the falling price of oil. The inability to meet financial obligations brings about the crisis. Should, for example, bankers and statesmen insist upon loan repayments when it is obvious that such obligations cannot be met, the western world could be plunged into a massive depression reminiscent of the 1930s when bank liquidities collapsed. It is only the recognition of the gravity of the situation on the part of the Bank for International Settlements and the IMF, the statesmen in both the lending and debtor countries, and the central bankers of the world, that has averted disaster thus far.

Unlike bankers during the years of the 1930s, central bankers today are a capable group who consult frequently, especially when world financial crises threaten. The measures which they devise are appropriate to meet each crisis and are the result of just such consultation. This does not mean that 'all's well that ends well', but it certainly gives the world a breathing space during which, hopefully, the fundamental malaise may be examined and, eventually, steps may be taken to correct it.

4 Capital, Investment and the Swiss Banking Paradigm

THE UNIVERSAL BANK AND INVESTMENT

The term 'Universal Banking' means precisely what it says. Swiss banks engage in all forms of financial activity for their clients. This means that attempting to segment the functions of a capital market with different specialised institutions acting within each segment, after the fashion of the Anglo-American capital market, is futile. This is not an easy concept to grasp, especially for those of us accustomed to a sharp distinction between investment banking and commercial banking.[1]

To appreciate the Swiss universal bank, consider the Swiss Bank Corporation as a case in point. This bank, the second largest of the Swiss banks, was originally founded as a union of banks – a *Bankverein* –during the 1840s in Basle. Like other banks of the time, the Bankverein operated by lending its own funds, money acquired from sales of equity and whatever retained earnings it was able to accumulate. Its investments consisted of shares purchased in corporations which it considered likely to be successful.

At a reasonably early stage in its development, the directors of the Bankverein became aware of the importance of an organised stock exchange so as to be able to liquidate or even trade shares when it became necessary to provide additional liquidity for its depositors. An active, working stock market was the only reasonable way of ensuring both the prompt sale of shares and a reasonable certainty of asset liquidity.

In addition to the need for liquidity, the Bankverein discovered that a stock exchange could provide asset flexibility so that shares of one company could be disposed of at a reasonably 'correct' price, and with the sale proceeds, the shares of another, perhaps a newer, company could be purchased. It was to serve this objective that the Basle stock exchange came into existence. The other two major exchanges, at Geneva and Zurich, were already in operation at the time.

Almost from the very beginning of Swiss banks in their modern form, stock exchanges became an extension of the banks' investment activities to ensure a degree of liquidity for their investments which

would otherwise not have been possible. This relationship is quite unique and has no counterpart in other countries. In most other countries, the concern over monopoly control of finance and investment has resulted in the separation of the banking and investment functions of financial institutions. In Switzerland, however, instead of specialised brokerage firms being represented on the floor of Swiss exchanges, as is the case elsewhere, the banks are already there, prepared to accommodate their customers in whatever form of investment their customers might elect.

In recent years, just as in other countries, prices on Swiss exchanges have risen to new and higher levels. Demand for equity investment in an inflationary world has spread to Switzerland, and because the Swiss exchanges are small relative to the great exchanges of London, New York or Tokyo, growing world demand has resulted in similar high prices in the Swiss exchanges. This has brought considerable income in the form of commissions to the banks, supplementing their pure interest income which derives from the more 'normal' banking activity of the granting of credit. Indeed, when interest income declines, sometimes on a cyclical basis, income from brokerage activities on Switzerland's stock exchanges is often increasing, to supplement declining interest income. Of course, the converse is also true. The well-known inverse relationship between interest rates and stock market prices acts to the banks' advantage in this case.

Though important, the stock exchanges are really only a small part of the entire Swiss capital market, if the market is defined to include the enormous investment activity engaged in by the banks. In its broadest sense this is the capital market.

When the Swiss banks learned to use borrowed funds for investment purposes, using their own funds for the liquidity requirements of their depositors, the scope of investment activities broadened considerably. The banks became investment banks in the real sense of the term, starting and developing new industries both in Switzerland and abroad. The Swiss engineering and electrical industries were financed and developed by Swiss banks, often with joint directorships between the banks and industry. This, to remind readers once more, was Saint Simon's investment banking, not as originally conceived, but as developed by the Swiss under their own unique traditions of banking.

USES AND MANAGEMENT OF FOREIGN DEPOSITS

Foreign investment is by far the more interesting of the Swiss banks'

investment activities. It is interesting because it necessarily involves two markets, one for the loan itself and one for the foreign exchanges. Thus, the deposits which derive from foreigners wishing to use the Swiss banks for investment of their own funds are transferred not into Swiss francs, but into a third currency. This requires well-developed foreign currency markets in as many different currencies as possible which the Swiss banks must themselves provide *before* foreign investment can be successfully completed. It is not enough, as the Anglo-American banks learned to their cost, to grant loans in foreign currencies without providing at the same time the wherewithal for the currency of the loan to return via a foreign exchange market route. The complete system, or structure, must be developed *before* the loan is granted; otherwise the lending bank exposes itself to an unacceptable double risk of default on the loans and a decline in the value of the currency of the loan. It is precisely this which the Swiss banks have learned over a century of development.

All this is sufficiently obvious as to appear perhaps trite, but it does involve either a knowledge of the future with 100 per cent certainty or an adequate provision for what is unknown. Exchange rate pegging, therefore, with either a gold standard or a Bretton Woods system, is likely to be welcomed by a banking industry when its major activity is structured upon international lending. Stable rates remove a principal source of uncertainty, the future exchange rate when loan repayments fall due.

The problem is easy enough to recognise. Foreign bank deposits require repayment in the currency of deposit and, therefore, necessitate a liquidity cover in that currency. If exchange rates are stable, the 'cover' need only be the minimum necessary to account for the deposit transactions which are likely to take place, but if rates are unstable, the cover must be great enough to provide for the repayment of deposits either without loss or with the minimum possible loss to the bank.

The amount of such foreign exchange cover can be considerable. Approximately one-third of non-bank sight deposits in the Swiss banks are of foreign origin; hence, at the end of 1984, Sf 21.1 billion of a total Sf 61.5 billion were foreign deposits.[2] There must, therefore, be a ready availability of the currencies of deposit, not necessarily in the currency itself but ready for immediate exchange into the currency. Furthermore, the value of the currency (the exchange rate) must be assured; otherwise the cost of purchasing additional funds when required for liquidity purposes may increase with an appreciating

exchange rate and involve the banks in some considerable losses.

When the great reserve currencies of the world collapsed in value during the latter 1960s and early 1970s, effectively bringing an end to the Bretton Woods system, Swiss banks were seen as earning extra windfall profit. The extra profit resulted, in the opinion of some observers, from forcing the exchange rates of reserve currencies downward so as to reduce the cost of their foreign currency obligations. This implied that a conspiracy within the Swiss banking 'cartel' existed to do precisely that. Nothing could have been further from the truth. Swiss bankers were behaving quite rationally. Consider the following analysis (Figure 4.1) which involves an inverse 'demand' curve for the Swiss franc forward (a normal demand curve spot for a specific foreign currency).

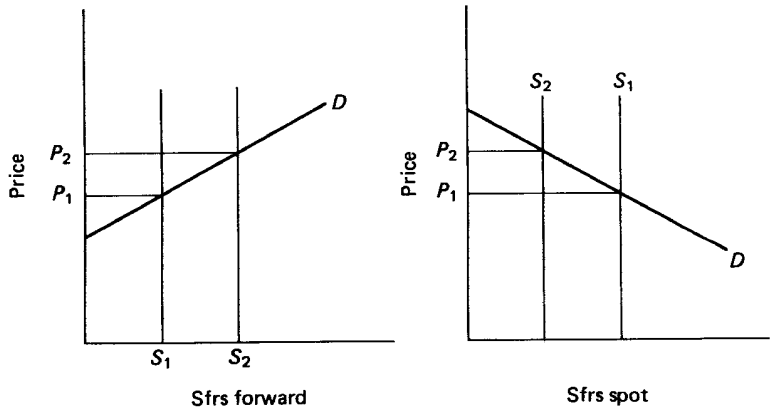


Figure 4.1 Protection against devaluation via the forward market

Within the spot foreign exchange market the consensus develops that the dollar (or sterling as the case may be) is expected to devalue for whatever reason, balance of trade, capital outflows, etc. This is the equivalent of an increase in the value of the Swiss franc from P_1 to P_2. In the normal course of events, such devaluation is immediately reflected in the forward markets. This means that banks can move into the currency of deposit (either sterling or the dollar) after devaluation, thereby protecting their sterling/dollar deposits with adequate liquidity cover at less cost. They can do this by *selling* Swiss francs forward in the forward market at a high price for the franc (low price

for the dollar). This shifts the amount of forward francs supplied rightward, S_1 to S_2. The elasticity of the response of the supply of Swiss francs forward would depend upon the degree of response of the amount of Swiss francs to shifts in the expected spot price, P_1 to P_2 (expected devaluation of the dollar). In the case of the US dollar, it would likely be considerably elastic since several billions of dollars were involved in the original wave of depreciation that preceded the demise of the Bretton Woods system.

The shift into the currency of deposit for forward delivery means, theoretically, a corresponding shift out of the substitute commodity, in this case the spot exchange. This is the shift leftward of the supply function, S_1 to S_2 in the 'spot' section of the figure and the corresponding rightward shift in the 'forward' section. This brings about the expected devaluation, spot, of the dollar (an increase in the price of the Swiss franc from P_1 to P_2). When it becomes necessary to honour forward commitments spot, the anticipated devaluation will already have occurred so that the price of dollar funds will be less in terms of the Swiss franc.

The Swiss bankers, then, have contributed to the devaluation of the dollar simply by using the forward markets to protect the value of the liquidity cover for their foreign exchange deposits, no more. They did not, however, *cause* the devaluation.

Far from being a 'conspiracy' to bring down the value of the US dollar, the banks of Zurich were behaving quite rationally. In fact, had they refrained from covering their deposit obligations, *this* would have amounted to a conspiracy. Agreements among central bankers of the Big Five countries to either protect or devalue the US dollar do, in fact, amount to 'conspiracies' in the broadest sense of the word.

In principle, the same analysis applies to the Swiss franc when it has shown appreciation tendencies (as opposed to the depreciating tendencies of the dollar) *vis-à-vis* foreign currencies. Should the franc show an upward trend which is expected to continue, banks can best protect their foreign deposit cover by selling foreign exchange (dollars, for instance) forward for francs. Forward contracts are honoured after franc appreciation by a purchase of the dollars with the appreciated francs for spot delivery. The use of the forward contract, in this case, is a substitute for the actual spot purchase of the necessary foreign exchange cover. But whether or not the forward market is used, there will be a general movement on the part of Swiss bankers into the currency which is expected to appreciate and, when this happens to be the franc, the demand for franc deposits will increase as a consequence. This is inevitable.

During the mid-1970s, despite the National Bank's efforts to restrict the volume of forward sales of foreign currencies, and in spite of the negative interest rate applied to Swiss franc accounts, the franc still appreciated (upward by 42.5 per cent in 1975) while other currencies declined in value. The reason for this was clear. A massive surplus in Switzerland's balance of payments (Sf 8 billion), an inflation rate which was very low relative to other countries (2.2 per cent by the end of 1975) and a real Gross Domestic Product which was not expected to grow by more than 1 or 1½ per cent per year, thereby ensuring a future demand for imports, all made it virtually impossible to maintain a devalued franc, and there was nothing the National Bank could do about it.[3]

The appreciation of the franc followed directly, of course, from the change in policy toward the franc from a fixed to a floating rate in 1973. Stabilising the franc meant a continuous purchase by the SNB of foreign exchange at the agreed price. This meant a continuous expansion of the monetary base and the money supply itself. Inevitably the inflation rate increased to reach 12 per cent in 1974 and almost 10 per cent in 1975 following the typical two-year lag between the checking of the monetary growth in 1973 and the reduction in the inflation rate. More unemployment, manifested by the departure of foreign workers and the return of housewives from the labour force to households, resulted in a lower growth rate of the GDP, *but* domestic prices had been stabilised.[4]

It is impossible to overestimate the importance of foreign deposits to the Swiss banking system and, of course, to Switzerland itself. It is the utilisation and management of these deposits which the Swiss have developed almost to a peak of perfection which lies at the root of the problem facing the banking systems of the rest of the industrial world. Because of their importance, it is worth while devoting a little more careful reflection on the nature of such deposits and how they arise.

Most banking systems of the world have foreign deposits and have had for many years. Deposits with foreign banks consist of obligations of foreign banks and are used by home banks to discharge their own obligations in the foreign country. Such deposits are one half of two-way interbank deposits (the other half being the home bank's obligation to a foreign bank). They arise from commercial activity, the finance of imports, and from the practice of actively bidding in the foreign country for deposits.

Such foreign deposit activity has no impact on the domestic money supply of either the home country or the foreign country. It is only the

ownership of these deposits which matters, and banks can continue their normal activity of domestic lending just the same regardless of whether the ownership is foreign or domestic. This is how, as we have seen before, the phenomenon of Euro-currencies has grown. These deposits, denominated in the foreign country's currency, can be re-loaned by the bank which owns them. Euro-currencies, thus, are no more than inter-bank deposits, in the largest sense of the word, expanded to the ultimate degree.[5]

Swiss banks do indeed utilise interbank deposits, claims against foreign banks, but these must be sharply distinguished from the foreign deposit which arises because a foreigner prefers the Swiss bank deposit to the deposits of his own domestic banks. When a foreigner deposits his money with a Swiss bank, the deposit becomes a claim against the depositor's country (as an asset) and foreign exchange is acquired by the Swiss bank which acquires the deposit. In this sense, the monetary base of the countries concerned, Switzerland and the foreigner's country of residence, are affected. Unless the foreign country has an Exchange Equalization Account to insulate the domestic monetary base from foreign exchange movements, a loss of foreign exchange can reduce the monetary base of the foreign country and increase the monetary base of Switzerland. 'Deposits of foreign origin', a classification in the Swiss banks' balance sheets, and 'claims against foreign banks', or interbank deposits, are two different types of deposits. The former do affect the monetary base and the latter do not. It is the latter, incidentally, which give rise to Euro-currency deposits.

When a Latin American dictator is finally overthrown and it transpires that he has managed to have his wealth, however ill-gotten it may be, transferred to a Swiss bank account, such wealth is a genuine loss to the revolutionary country because it involves the loss of foreign exchange or gold.

To look at the situation from a more positive side, these claims lost to the revolutionary country are being invested somewhere in the world so that the Gross World Product is higher as a result. We can be assured, given the Swiss banks' record, that the investment resulting therefrom is *not* a useless waste of capital resources.

The foreign deposits of Switzerland must represent an achievement in banking which is unique. An increase in these deposits means an increase in the banks' obligations in foreign currency, so that not only must the banks' 'own funds' be adequate to accommodate the greater liability but also the Swiss franc must be sufficiently sound to be readily exchangeable into the foreign currency at an acceptable rate. At the

same time, in the longer term, the investments of the banks must be sufficiently sound to generate the return to the banks of principal plus interest, again via the foreign exchange markets.

This is the essence of the Swiss banking paradigm from the foreign investment point of view. It consists of two parts: (i) the acquisition of the deposits and the adequate cover for these through a sound foreign exchange market, and (ii) the return, interest and principal, of the investment, again *through a sound foreign exchange market.* This is not so easy as might appear at first sight. It involves not only the quality of the investment but the availability of foreign exchange within the country of investment to ensure the return in Swiss francs. In other words, the balance of payments in that country must be sufficiently healthy to support the return flow of the loan repayments. It was this, incidentally, which was absent during the massive lending of petro-dollar deposits by Anglo-American banks to developing countries.

This second part of the foreign investment paradigm, the return of the investment to the Swiss banks, is made much easier during periods of either a gold standard or fixed exchange rates. Periods of upheaval such as the World Wars and the great inflations of Europe which succeeded these wars wreak havoc in banks heavily reliant on foreign assets. Political upheavals and the revaluation of currencies can also mean considerable losses to the Swiss banks. In a real sense, international banking can only prosper during international peace.

In economic terms, the contribution of Swiss banks, to repeat, consists of a massive intermediation process which no other banking system in the world has yet been able to achieve to the same degree of success. They accept responsibility for the deposits, the first 'half' of the paradigm, and accept the risk of the asset, the second 'half'. The first condition for success of this process is, of course, a currency which makes such a complete intermediation system not only possible but feasible. This the Swiss franc has been able to achieve. Intermediation, in this case, means that the liquidity of the lender's funds is assured through a combination of the security of the franc and the liquidity of the banks. He is secure from both the borrower's inability to repay and a collapse in the currency of repayment.

When the loans are made back to the same country as that of the original depositor who supplied the deposit, the situation becomes even more interesting. This is true in the case of France which benefits from a kind of 're-cycling' of its own funds. But why do not French depositors use their own banking system and thereby ensure the use of their funds within France? The answer here lies in the inadequacy of

the French banks to serve the liquidity requirements of the French depositors who prefer, instead, both the liquidity and confidence which the Swiss can offer, relative, that is, to their own banks. At the same time they enjoy the stability of value for their deposits in a hard currency which the Swiss franc can offer. This is an interesting development considering that Swiss banking itself had its origins amongst the Huguenots who settled in Geneva, having been forced from their original homeland for religious reasons.

Such curious circumstances not only demonstrate the effectiveness of Swiss international banking but highlight its importance. It forces, that is, the banking systems of other countries, though very much larger in terms of total assets/liabilities, to compete for savings with a smaller but highly efficient banking system. The Swiss force both efficiency and banking integrity on a financial world whether the world wishes it or not.

Domestic loans by Swiss banks, while important in terms of the balance sheets, are obviously not so interesting in terms of intermediation. Reference to Table 4.2 below will make clear the quantitative relationships between foreign and domestic credits; certainly the achievements of the Swiss economy in manufacturing, commerce, and trade are due almost entirely to the banks' investment capital. Cantonal banks in particular serve the domestic credit market and here the domestic intermediation function is no different from that in any country.

Since domestic lending necessarily involves the Swiss franc money supply, the acquisition of foreign exchange either directly through foreign deposits or through bonded loans must increase the monetary base unless some countervailing action is possible by the National Bank. This, plus the fact that opportunities for domestic investment are limited, relative to the opportunities abroad, means that the largest part of bank profits must lie in foreign investment, since interest rates will certainly be higher there. Domestic investment demand must be inelastic relative to foreign demand so that a banking system the size of the Swiss cannot possibly exist with domestic investment only.

Attempts to tighten up the bank capital ratios and to increase bank taxes by certain left-wing political groups, following the Chiasso Affair, have not met with favour for obvious reasons. Like earlier attempts to restrict foreign lending, they appear to be based on a misunderstanding of the enormous contribution of the banking system to the Swiss balance of payments, the Gross National Product, and total employment.[6]

The relationship between foreign and domestic sources of funds can be readily seen from Table 4.1.

Table 4.1 Swiss liabilities (passive) by source, 31 December, 1984 (millions of Swiss francs)

	Interbank Deposits		*Non-bank Deposits*			
	Sight	*Time*	*Sight*	*Time*	*Others*	*Total*
Foreign	21 145	61 663	39 222	88 861	19 448	230 339
Domestic	13 909	46 815	47 672	64 204	319 905	492 505
					Total	722 844

Source: Swiss National Bank, *Les banques suisses en 1984*, No. 69, table 3, p. 12.

Of the total resources (722.8 billions of francs) available to the Swiss banks, 230.3 billion, or 32 per cent, were of foreign origin. Of this total, Sf 147.5 billion, or 64 per cent, were of non-bank origin. Interbank deposits have grown considerably since the Second World War when they represented less than 1.0 per cent of balance sheet totals, to almost 20 per cent by 1984, partly as a result of the liberalisation of payments in foreign currencies and partly the consequence of the strength of the Swiss franc as a gold-backed currency.

The uses (assets) to which the funding is put is in Table 4.2 for purposes of comparison.

Table 4.2 Swiss assets (active) by use, 31 December 1984 (millions of Swiss francs)

	Interbank Deposits		*Loans*[1]			
	Sight	*Time*	*Without Cover*	*With Cover*	*Other*	*Total*
Foreign	15 357	124 728	32 157	25 950	90 813	289 005
Domestic	10 416	29 944	20 051	48 461	324 967	433 839
						722 844

[1] The classifications 'with' and 'without' cover are the equivalents of the more familiar 'secured' (mortgage) and 'unsecured' (business) loans.
Source: Swiss National Bank, *Les banques suisses en 1984*, No. 69, table 3, p. 32.

Total foreign loans (plus foreign investments in the 'other' category) are Sf 148.9 billion, approximately equal to the foreign deposits. These deposits are those which are derived from all sources, the wealthy and

not so wealthy, and those of somewhat doubtful moral character. They are 'spun off' into projects throughout the world (sometimes returning to the same countries whence they came). The foreign deposits share the same characteristics as the domestic deposits in that they are 'other people's money' and must be carefully and wisely used. Euro-currency lending accounts primarily for large interbank deposits, especially the Sf 124.7 billion of time deposits with foreign banks.

In addition to the balance sheet funding, there are the fiduciary accounts which Swiss banks invest for clients but accept no responsibility for. These accounts which are largely of foreign origin (about 84 per cent) amounted to Sf 231 990 at year-end 1984. The largest proportion (98 per cent) is invested in foreign countries. To be more precise, fiduciary accounts are entirely at the risk of the client and only involve a commission for the banks, the profit (or loss) accruing to the client. The growth of these accounts from miniscule (just 0.5 per cent) of total balance sheets in 1950 to 32.1 per cent of balance sheets in 1984 suggests the degree of confidence in the investing skills of Swiss bankers held throughout the world.

It cannot be overemphasised that the activities of the Swiss bankers, small though their balance sheets may appear relative to other banking systems, do impose a discipline on the banking systems of the world. Wherever Swiss banks seek funds, they are at the same time forcing some other banking system to conform to standards of sound banking principles. Thus, should a government wish to acquire the savings of its own citizenry for its own use, it must develop a banking system which will make it attractive for the public to use.

Even dictatorships have found it difficult to restrict the movement of funds out of the country. The famous exodus of Jewish money from Nazi Germany to Switzerland attests to this. In addition, the well-known practice of Swiss banking secrecy which arose from this particular unfortunate episode in history makes it impossible for such funds to be repatriated against the will of their owners. These are no small achievements.

THE EVOLUTION OF A BANKING PARADIGM

A recently published rating by the highly prestigious London-based *International Bank Credit Analyst* places three Swiss banks in the top five, category A, along with the famous Deutschebank and J. P. Morgan.[7] These Swiss banks are Crédit Suisse, Swiss Bank

Corporation, and the Union Bank of Switzerland. This is a great accomplishment in these days of excessive lending to less developed countries; indeed, Switzerland both as a nation and as a people can be justly proud of its banks. Like Hong Kong, Singapore, etc., Switzerland, because of a dearth of resources, is forced onto its own human capital – its wits – to succeed in a world of nations which possess all the natural resources which the Swiss lack. This is made possible by the development of a banking paradigm which is so successful that it produces the results mentioned above.

The term 'banking paradigm' as used here refers to practices, customs, habits, etc. (a series of 'oughts') which bankers have developed over the years. Their lending activities, borrowing of deposits, foreign borrowing and lending are governed by a certain customary procedure, within a legal framework, and this procedure is the consequence of a received wisdom – the consequence of both experience and historical circumstance. The domestic portion of the banking paradigm, thus, is situated between the monetary base of the country and its total deposits. The foreign portion bridges the liquidity of foreign depositors and the liquidity requirements of foreign borrowers.

The Swiss paradigm can be outlined according to the following six characteristics:

1. Assets. Both Loans and Investments of Highest Quality

Swiss experience with investments begins, for all practical purposes, with the 1870s. At that time, the Swiss railways, which the banks had largely financed, were facing collapse, and bankruptcies were common among railway companies. Railway bonds, of course, were virtually worthless in capital markets. Faced with financial disaster, the banks were successful in arriving at a unique solution to their otherwise hopeless situation – a solution which held considerable promise for the future.

In the case of the Nordost Bahn, a railway company falling into bankruptcy, a French referee had recommended that a separate bank be founded which would fund the railway by means of an issue of its own bonds – intermediating, that is, between the public and the straitened railway. This coincided with the recommendations of the Basler Bankverein (later to become the great Swiss Bank Corporation) which had already been active in the promotion of just such an institution, hence reinforcing the Bankverein's proposal. The

bank was founded, debentures were issued, and the railway bonds were purchased. Most important for the banks and the railways, the mistrust of railways and the fears of financial catastrophe accompanying a railway collapse on the part of the public had been dispelled. The banks, left to their own devices, had developed their own solution to a difficulty by means of a process of adaptation to a specific set of circumstances. In this case it was the substitution of a higher quality debt, railway *bank* bonds, for the much poorer quality bonds of the railways.

Another period of railway turmoil appeared in the 1890s which was quite different from the period of bankruptcies which had characterised the 1870s. The government had planned to purchase 50 000 shares of the Schweizerische Zentral Bahn, and this sparked considerable speculation that all the railways were to be purchased in this way, thereby bringing them under government ownership. The measure was turned down by referendum, but meantime, massive speculation in railway shares on the stock exchanges took place.

As might have been expected, the speculative bubble burst since it had no foundation in reality. But, to make matters even worse, a great many general embezzlements and scandalous bankruptcies had occurred at the time; they were not confined to Switzerland at all but seemed to be a more widespread phenomenon in which Switzerland was really a part. Banks were the victims of such speculation, having been trapped in their mediation function by firms which were advancing each other funds for purely speculative purposes. Stock market rigging, again using the banks as intermediaries, had become a common practice in central Europe. The Schweizerische Union Bank in St Gall was a victim of these operations and suffered losses running into the millions.

But not everything was adverse for the banks during this period. More successful and constructive were the direct investment activities of the Swiss banks. It appears that companies, sometimes from Germany or France, found it worthwhile to establish themselves in Switzerland or in the region of Switzerland so as to take advantage of the already existing Swiss capital market. This is unique in the sense that under ordinary (more modern) circumstances, foreign investment develops from a capital base in the home country to seek labour or raw materials elsewhere. But in the Swiss case, newly formed industrial concerns took advantage of the availability of capital to locate in the area surrounding Switzerland. Raw materials were imported when necessary and the labour requirements were met locally.

It was at this time also that the banks discovered the technique of placing their own people as members of boards of directors of their customers; hence, not only was the investment of the banks protected but the management of the concern benefited as well from the previous experience of the joint directors. Numerous industries – electrical, embroidery, mining, etc. – were developed in this way, not just in Switzerland but elsewhere, particularly within the region of central Europe.

The First World War, of course, was an absolute disaster for the Swiss banks. Something like 93.4 per cent of their investments in Russia were lost by the refusal of the new government to purchase the investments. The post-war inflations in Germany and elsewhere were also disastrous for investments. An interesting example of co-operation among Swiss banks during these trying times is the assistance rendered by the Swiss Bank Corporation to the Leubank. This bank, which had very many assets, mortgages, etc., in Germany, was literally going under. The SBC organised a syndicate which issued new preference shares of which the SBC itself purchased an amount – enough to acquire seats on the board of directors. This was sufficient to maintain the bank's liquidity.

The Swiss Bank Corporation rendered the same assistance to the Handwerker Bank. This bank had also lost heavily from the circumstances of war, but in this case many of its assets had been located in Alsace which had been taken over by France after the war. These investments, unfortunately, were seized by France without compensation to the Handwerker Bank. Such mutual assistance among Swiss banks was not unusual during those troubled times, a characteristic uniquely Swiss.

By the decade of the 1920s Swiss banking had developed its capital market to such an extent that foreign borrowers were making use of its facilities to a much greater extent than in prior years. This meant substantial increases in underwriting for the banks and increases in commissions from this source right up to 1929.

There is a 'maturity' apparent in the Swiss banking industry at this time, when it had endured the vicissitudes of the latter decades of the nineteenth century, the arrival of the National Bank on the banking scene, the introduction of the Giro system, and a massive destruction of foreign investment capital in a world war. However, already the banking paradigm was beginning to emerge in terms of stock market activity, underwriting, an awareness of the importance of foreign investment, and, most important, the capacity of the banks to co-

operate and assist one another in times of crisis. It was from the maturity of the banks, the consequences of the misfortunes of the past, that the evolution of the first part of the banking paradigm was emerging – Assets of the Highest Quality.

The contribution of foreign banking to asset quality found expression in Julius Landmann, an economist, writing in *Der Schweizerische Kapitalexport*, in 1916. He made some highly interesting comments regarding foreign banking.[8] He noted that the export of capital could be restricted only if there were, at the same time, a corresponding increase in the number of profitable investment opportunities at home. But this would necessitate protective tariff barriers which would, in turn, mean a reduction in the growth of productivity and, in addition, both a reduced national income and a lower standard of living. As it was, the export of capital meant earning interest from foreign investments, thereby contributing to a favourable balance of payments. Further, since much of its *own* capital was raised abroad, it meant that the Swiss economy was international in outlook, hence the welfare of the world economy determined the welfare of the banking industry and of Switzerland.

The Great Depression, as one might imagine, was a particularly difficult period for Switzerland because of its dependence upon exports. The Hawley-Smoot tariff and the worldwide move towards protectionism in other countries caused considerable unemployment. Some assistance came from the devaluation of the franc during those years, which meant that costs were brought more nearly into line with other countries in terms of Purchasing Power Parity. Also fortunately for the country, the banks weathered the storm of Depression extraordinarily well and were able to make a positive contribution to employment in the export industries by tying their lending activity to *quid pro quo* terms. This was particularly effective in the French request for credit in 1937 which was made conditional by the Swiss upon the revision of the French import quota in a manner more favourable to the Swiss. When the condition was agreed upon, both Crédit Suisse and the Swiss Bank Corporation took over the placing of Sf 200 million of two-year 4 per cent bonds of the major French railway companies; each bank took Sf 35 million for its own account and the remainder was used for public issue in the Swiss capital market.[9]

We can say that the first part of the Swiss Banking Paradigm, assets of the highest quality, was not only well entrenched but weathered the storm of the Great Depression very well. It proved its worth at a time when the banking systems of the United States, Great Britain and

Europe were either collapsing or struggling to remain intact, weighed down with assets of little worth.

2. The Greatest Liquidity

Swiss banks maintain the highest liquidity ratios in the world. We can state this categorically because we know that in addition to the reserves published in the balance sheets, there are also 'hidden' reserves. Such high liquidity ratios are also the result of the historical circumstances that have made the Swiss banking paradigm what it is today.

The amount of the 'hidden reserves' is known only to the Banking Commission and the very few privileged top managerial staff of the banks. For the rest of us, we can only hazard 'guesstimates' of the volume of these reserves, but we do know that they are considerable. Their size has been deduced by the simple process of comparing the annual profits of banks, after taxes, and the distribution to shareholders. It is assumed that the difference is addition to reserves, and the portion which does not appear on the balance sheet is therefore 'hidden'.

Anglo-American students of banking might wonder at such conservatism, and for very good reason. The counterpart of the 'hidden reserve' is deposit insurance operated by government agencies. Such insurance encourages bankers to not only maintain the absolute minimum of liquidity but also structure their assets in the form of loans and investments of less than the highest quality.

But consider the Chiasso Affair referred to in Chapter 2. We must remember that Crédit Suisse was able to repay all the lost funds from its hidden reserves alone so that its balance sheet was totally unaffected. The bank elected to repay these funds (even though it was not obligated to do so) because confidence in the entire Swiss banking system was in jeopardy. Since, as has been pointed out above, this is a truly international banking system with a strong dependence upon foreign deposits, there is entirely too much risk in reserves which are inadequate to meet the most severe of crises. But, like the quality of assets, the lesson of adequate reserves had to be learned from experience, and since the Swiss government does not provide deposit insurance, the banks learned to provide their own.

Sometimes the experiences are bitter, as in the case of the banking crises of 1910–14. While the initial cause of the crises lay in the difficulties in which Swiss industry found itself, instead of being contained within the industry in a localised region, they spread via the

banks to regions well outside Switzerland. In the canton of Thurgau, the Thurgau Mortgage Bank had been attracted to the relatively high risk Zurich land speculation by the high interest rates that were being earned. Much of the funds used for this purpose had been acquired from municipalities within the canton and some from outside (foreign) sources including Frankfurt, Cologne, and Berlin.

The situation came to a head in 1912 following the industrial difficulties of that year; a wave of distrust swept through the savings banks of Thurgau and a supporting consortium was necessary to support the Thurgau Mortgage Bank. The banking crisis spread to Ticino in 1914 and involved the collapse of two banks in that canton. Eventually a third bank fell as well.

The reasons for the collapse are interesting: (i) an excessive immobilisation of resources, (ii) a lack of risk-spreading, (iii) nepotism in advancing loans and staff selection, and (iv) insufficient liquidity and too modest an amount of equity and reserve funds.[10] All but one of these 'causes' (item three) of the collapse can be subsumed under insufficient reserves. If deposits are excessively large from single sources, as would be the case for municipalities, larger reserves must be carried as a defence against the laws of probability. If investments are concentrated (item two) so that even transitory business failures occur in one place – Zurich – again very much larger reserves must be on hand to compensate for the lack of liquidity of assets. Nepotism is a sin for which no reserves are sufficiently large and which, thankfully, has not been widespread among Swiss banks.

The problem of liquidity during the decade of the 1870s existed in a different form. At that time, it was a matter of developing sufficient liquidity of assets (not deposits), hence the importance of stock exchanges. The advantage in being able to liquidate assets lay in the capacity to adjust portfolios so as to accommodate changing business conditions. Deposits, at that time, were not so important because the banks' 'own' resources were its source of funds, and the task of the bank was to gain the highest return for shareholders. Once the banks learned to borrow funds to use the public's resources, the liquidity problem took on a very different dimension. It was this latter, the liquidity for deposits, which was the primary difficulty during the 1910–14 banking crises, in contrast to the liquidity of the railway era when the problem was one of asset liquidity alone.

By the end of the nineteenth century, the practice of maintaining 'special reserves' (later to become hidden reserves) was well entrenched among Swiss banks. Just as balance sheet reserves declined in proportion to total assets, these special reserves increased.

The use of other banks' deposits also shows strong growth trends, especially in recent times. The banks have learned to use their deposits with other banks, and the other banks' deposits with them, as important sources and uses of funds. During the post-war years of currency restrictions, inconvertibility, etc., the Swiss franc was the one desirable currency for foreign banks to use for joint bank deposit purposes. The practice of maintaining deposits with Swiss banks increased during those years. With the return of convertibility, the strength of the Swiss franc helped further to encourage foreign banks to continue to use Swiss banks for their foreign deposits.

When the five great banks are considered as a whole, the relative importance of joint bank deposits is by no means so great. At the end of 1984, these banks showed 'due to banks' (liabilities) as 21 per cent of the balance sheet total and 'due from banks' (assets) 27.6 per cent. These percentages are not large. The comparable figures for the Canadian chartered banks, of which there are also five great banks, at the end of 1984, are 43 per cent due to banks (liabilities), and 45 per cent due from banks (assets).[11] The important difference is the speed of growth of Canada's foreign assets and liabilities, which were virtually nil at the beginning of the 1970s; hence it is not possible to develop the same quality of foreign assets as the Swiss banks in so short a time period. Furthermore, the enormous growth in direct foreign lending to Latin American countries in particular is reflected in these Canadian figures. It is the quality of these foreign assets that is called into question, and it is this which is largely responsible for the relatively poor rating of Canada's banks – relative, that is, to the Swiss – by the *International Bank Credit Analyst*, which brings us to the next feature of the Swiss banking paradigm.

3. An Asset Structure Designed to Maintain Solvency

At the same time that large (almost excessive) reserves are maintained against deposits, the banks' assets are structured to preserve the liquidity of the banks. The same IBCA which classified the banks in terms of quality also rates countries as to their credit status. As might be expected, the first five of these countries are United States, Japan, Switzerland, West Germany, and the United Kingdom[12]. Totalling up the Swiss foreign investments in the top four countries (Switzerland excluded) we find that Sf 193 763 million were invested in these four countries. Of a total foreign investment of Sf 289 005 million, this amounts to 67 per cent. If we include Swiss investments, since Switzerland is one of the top five, the percentage rises to 86.8 per

cent of total assets (foreign and domestic) invested in these countries.

It has been argued above that banking systems, generally, structure themselves to fit the monetary and investment requirements of the country in which they reside. As the domestic economy grows and develops so does the banking system. Occasionally, as we know from historical experience, the requirements of the economy may be at odds with what the banking system can provide, and this has resulted in the periodic banking panics which have often accompanied the business cycle. For most other banking systems, it is only of late years that a requirement for foreign investments and deposits has developed. This means that the national banking systems of various developed countries, quite adequate for their respective domestic economies, have been increasing their loan exposure to countries which have structured their economies quite differently. The results, as has been argued in Chapter 3, have been disastrous.

In the Swiss case, on the other hand, not only has the domestic requirement for banking services been met for the past hundred years but also the foreign requirements. Conversely, Swiss banking has adapted itself to the requirements of other countries just as it has satisfied its own country's needs. With one foot, as it were, in foreign investment and the other in domestic, it follows that the quality of assets in the foreign sector must be sufficiently high to provide the banks with both the income and security which they require. This concept was expressed neatly by Emilio Ceio, president of the Swiss Confederation, when contemplating the possibility of future lending to Latin America and such other countries which are not at all creditworthy but require foreign assistance nevertheless:

> and if the problem of aid to developing countries which can be judiciously solved only by differentiating amongst the individual circumstances and requirements is to be made to harmonize with the needs of a stable monetary system functioning on a world-wide basis, this is tantamount to squaring the circle.[13]

It would be difficult to add further to such an excellent summary statement. Developing countries are simply not 'bankable' in the ordinary sense of the word. They require agencies other than banks for financial assistance, and therein lies one of the great problems of modern times.

Swiss banks are not perfect and certainly have committed every

banking sin in the book. There was little justification for the tying-up of assets in Zurich land speculation which brought the Thurgauische Hypotheken Bank to grief. Interest rates were high, but so were risks. Similarly the Zürcher Bankverein at the end of the last century had overexposed itself in railway shares. Loans and securities, discounts, etc. were excessive even though the business optimism of the first half of 1891 seemed great enough. These and many other experiences seem to have shaped banking opinion into a conservative mould, indeed, to the point of actually preferring industrial participation to providing credits alone.

In the foreign sector, world history seems to have been largely instrumental in shaping Swiss asset structure. The risks of investments have been determined more by political events in Europe than the industrial projects themselves which were otherwise quite sound.

The evaluation of investment projects has been greatly facilitated by the advent of branch banks in foreign financial capitals. This means that very many of the projects financed with Swiss funds can be evaluated on the spot. Furthermore, since there is the opportunity in foreign banking to choose both the region and the project, as opposed to domestic banking where the region is already determined, Swiss banks have shown a definite preference for London and New York over the more politically dangerous region of central Europe.

4. The 'Other People's Money' Syndrome

Swiss banking, it should be recalled, had its origins as investment companies which sold shares to investors. The proceeds of these shares were used for the development of industry both in Switzerland and outside. In addition, an interrelated system of loans and investments developed among the Swiss banks. This was the case with other banks which were experiencing difficulty and were merged or otherwise taken over by healthier institutions. It was only later that the banks learned to borrow funds from the public using their own funds as security. Their leverage was considerably increased in this fashion. In addition, profits were much enhanced.

Unlike Anglo-American banks the Swiss never conceded that such borrowed funds were the property of their bank, to be disposed of as they saw fit so long as liquid funds were available for honouring the deposits. Here one is forced into the realm of both psychology and history to explain this fundamental difference between these two

different aspects of banking paradigms. Why did Swiss bankers never really concede the break between liabilities (borrowed funds) and assets (their investments)? The answer must lie in the bankers' historical experiences, conservative nature, and, most important, banking psychology.

At the same time there was a self-reinforcing effect in the fact that the preference for high-quality investments, itself the consequence of the 'other people's money syndrome', proved in the end to be the wiser approach. Anglo-American banks tend to divide banking activity into two distinct divisions, one responsible for the collection of deposits (liabilities) and the other the disposition of these deposits as assets. Both divisions will likely be headed by senior management personnel. Thus, when deposits happen to be plentiful, it is the responsibility of the assets section to dispose of them as quickly and as profitably as possible. This pleases the shareholders because bank profits will be high, and certainly individual employee promotions and salary increases will follow. Most important, though, the essential link between deposits and assets is, for all practical purposes, severed by the structure of the bank itself.

On the other hand, when deposits are scarce, it is the responsibility of the deposit department to increase them. The fact that loans or investments may be excessively illiquid or at too high a risk, given the existence of a short supply of illiquid deposits, is corrected not by 'reining in' the assets division but by the encouragement of more deposits by the deposits division. More accurately, the working structure of the bank is such that, even if the top management is aware of the fact that assets and deposits are not balanced in terms of liquidity, there is no specific action to be taken *between* the assets and liabilities to correct the difficulty. The appropriate resolution to the problem is merely to seek more deposits.

We do not find this difficulty among Swiss bankers. Certain deposits are 'correct' for certain asset structures. With the 'other people's money syndrome' bankers are conscious that the deposits *are* other people's money in the first place, and, to accommodate this responsibility, an appropriate set of assets for certain types of deposits has been developed. This is the result of historical experience. Anglo-American bankers, incidentally, have moved part way in this direction in the case of domestic deposits. Short-term deposits (demand deposits) require a higher ratio of liquid assets than longer-term deposits (savings deposits). But these ratios do not apply to either foreign or Eurocurrency deposits.

5. The Tendency Toward an Optimum Size

There are some 1669 banks, (deposit-taking institutions) in Switzerland. Of these, only five, the Grossbanken, are world class banks. These five banks have 53 per cent of the balance sheet totals of all the banks.

This is not unusual. Canada, whose financial system bears comparison with Switzerland, also has five great banks. In fact, should we examine each of the great powers of the free world we would certainly find the same tendency toward banking concentration, for the reason that in concentration lies the greatest efficiency. In other words, there is an optimum size for the success and prosperity of financial institutions.

Swiss banks learned this during the era of railway and land speculation when very many small banks were forced into bankruptcy. During the banking crises of 1910–14, these small banks lost the right of note issue, in the first place, and the privilege of discounting accommodation bills in the second. The result was that small banks fell victim to the rather typical set of errors inherent in any banking system that is composed of small banks.

There was, firstly, an excessive degree of competition among these small banks. That is, with a given number of investment opportunities to be divided among a large number of banks, only the fittest can survive, especially if investment opportunities seem to be shrinking. In the 1910–14 crisis, this condition was exacerbated by the introduction of the new Swiss National Bank and the concentration of the right of note issue in the National Bank.

In more modern economic terminology we might consider this as the economies of scale which were not available to the small banks at that time. The management of one bank is perfectly capable of handling the business of large accounts as well as small accounts, assuming that the number of accounts is the same, but the profits from the large accounts are considerably greater. Small banks with correspondingly small accounts lose their 'degree of competitiveness' because of the absence of economies of scale.

Secondly, there was, and is, a given amount of managerial expertise in any financial system. Large numbers of small banks cannot successfully compete for this talent; as a result, the weakness of inadequate managership, unsound business policy, underwriting of high-risk investments, speculation, and just plain incompetence, appear among the smaller banks as more damaging than with the larger banks.

Inevitably, then, the stronger banks take over the weaker, making the stronger ones still larger. This strengthens the entire financial system, making it possible, ultimately, to compete for the business activity of the world. But there was also another distinguishing feature of the Swiss banks which set them apart rather early in their history. The famous Swiss banking cartel had its beginnings during the railway era when the matter of financing the tunnel between western Switzerland and Italy, the Simplon tunnel, was considered. It was suggested at the time that a cartel be formed with each member being responsible for a share of the financing.[14]

An unusual feature of the cartel was the fact that all decisions relating to the business of the cartel required unanimity before they could be put into effect, and this practice continues to the present. The cartel as it exists today does not mean that competition is eliminated between members; quite the contrary, when bond issues, for instance, are forthcoming, the cartel agrees in advance, after some considerable, serious bargaining, how the bonds will be allocated amongst members. Rather than bidding against each other for underwriting business when the bonds become available on the market, the large Swiss banks prefer to have the competitive 'haggling' already behind them. This results in efficiency. There is no question of price rigging, such as in the OPEC oil cartel, because Swiss banks compete with all the other great international banks in the process of bond price determination on the market.

So it is that the large Swiss banks find it to their advantage to pool their skills and expertise in the form of a cartel for the purpose of allocating bond or security issues among their members. It is a logical extension of the smaller banks becoming part of the larger banks to form the five *Grossbanken* – economies of scale. The cartel is a still larger extension of the same economies of scale to form a financial entity in international business.

6. Banking Regulations and Control

The Swiss banking system shares with its counterparts in other nations the instruments of monetary policy and controls which force the banks to conform not to the market nor to their own special motives, but to the agencies of the Federal government – the central bank. As discussed in the chapter on the National Bank, it is the monetary base of the country which is under direct control; in fact, the National Bank can determine the monetary base to the last franc.

But these are mechanical controls which structure the framework of the Swiss banking system. For an exhaustive treatment of this aspect of Swiss banking, readers would do much better to consult Dr Hans J. Mast's *The Swiss Banking System* published by Crédit Suisse and available from that bank upon request. Or another excellent discussion of Swiss banking, particularly the methods of National Bank control, can be found in Roethenmund's *Swiss Banking Handbook* available in most libraries.

What is peculiarly Swiss in this area of the banking paradigm is the method of 'gentlemen's agreements' which is used very much in a small country (or a small city, Zurich). The National Bank through consultation with other bankers, who are well known to the Bank, can arrive at a policy which it considers to be appropriate for the time. In this way bankers who implement that policy are part of the discussion from the initial stages. Their final co-operation is thereby assured. Bankers prefer it this way because they know full well that if they refused to co-operate, the National Bank has the power and the means to ensure co-operation. Such 'gentlemen's agreements' as practised by the Swiss are absolutely out of the question in the United States or Great Britain for the obvious reason of size.

THE PARADIGM

The six components of the Swiss banking paradigm (doubtless one might list more should he so choose) stand between changes in the monetary base of Switzerland and a corresponding change in the money supply. They are all components of a banking 'multiplier' which can neither be evaluated nor computed. Nevertheless they affect the amount by which the Swiss money supply reacts to changes in base money. For example, a given change in the monetary base will result in a certain amount of foreign assets, some changes in domestic investment, certainly adjustments in interbank deposits, perhaps an increase, or decrease, in liquidity, and some increase in M_1, always depending upon the conclusions reached in discussions between the National Bank and the bankers themselves – the 'gentlemen's agreements'. It is the latter which will likely have the greatest quantitative 'value' in a banking multiplier, however conceptualised.

During the period of 'tight money' at the beginning of the 1970s, money (M_1) actually *fell* between the years 1973 and 1974 from Sf 48.1 billion to Sf 47.4 billion. This was not much, but it was sufficient to

stabilise prices just two years later. To effect this monetary and price stabilisation, the monetary base rose by a small amount from Sf 29.31 to Sf 31.45 from 1972 to 1974 precisely as the National Bank had intended. This is the Swiss bank multiplier in modern times. A small increase in the monetary base actually resulted in a decrease in M_1; how these are related in precise terms it is impossible to suggest, but we know that the Swiss banking paradigm is sufficiently broad to accommodate such a paradox.

CONCLUSION – SWISS BANKING IN A WORLD OF CHANGE

The discussion of the Swiss banking paradigm leads to one final thought. Could it be true that the Swiss banks are not capable of adapting to a modern world characterised by swiftly changing circumstances? The efficiency of an international banking system must be judged on the basis of how quickly it can transfer the liquidity in surplus to where it is in short supply. 'Short supply' in this case means a deficit of funds which may persist because it cannot satisfy the conservative bankers' criteria. It is true that Swiss investments are heavily concentrated in developed countries in which liquidity is not in short supply.

If it be accepted that the world did move excessively fast during the inflation of the 1960s/70s in its race toward economic growth, then a conservative banking paradigm such as the Swiss is precisely what was required as a counterweight. Certainly, it was the 'inflating' banking systems of the Anglo-American countries which made the great economic expansion possible, not the Swiss. The rapid growth in foreign exchange deposits noted in Canada, for instance, could be considered as helping to fuel world inflation rather than merely to keep pace with it.

As we move towards the industrialisation of those countries with a rapidly growing population, a 'second stage industrial revolution', the world's resources must not be squandered in a headlong rush towards satisfying the demand for industrial growth. Such can only result in a repetition of the past two decades, world inflation, world pollution, and a world scarcity of resources.

Banking systems, in the last analysis, will play a major role in the distribution of the world's scarce resources in the future. If correct banking principles are used, these scarce resources would seek an optimum level quite different from a method of distribtuion deter-

mined by some arbitrary criteria. Such an optimum would be dictated by a market system. Those individuals, Carlos Langoni, for example, who would argue that the free market 'optimum' is not appropriate for less developed countries, must offer an alternative approach. One such alternative is the World Bank, whose bonds have been sold in the Swiss capital market. In this way it, firstly, acquires funds on a free market basis then, secondly, apportions these funds to those countries that can satisfy the established criteria of the World Bank. Generally, these criteria involve the apportioning of their funds to less developed countries on the basis of the worthwhileness of projects within specific countries rather than the creditworthiness of those countries. This approach takes advantage of the intermediary function of the capital markets so that the World Bank may acquire its funds, using that intermediary which is best equipped and most experienced for the task. At the same time, by distributing these funds in accordance with need criteria, it satisfies the objections of those who might argue that the free market alone is not equipped to apportion these funds to less developed countries on an optimum basis.

Bypassing international organisations such as the World Bank with direct lending by commercial banks, on the one hand, and failing to apply sound banking principles on the other not only leads to the difficulties facing the world's financial system but also certainly contributes to world inflation. Inflation arises because of an over-extension of the world's resources in a massive attempt to move too fast towards unsustainable economic growth. High world interest rates are the inevitable consequence of the attempt to achieve too much too quickly as well as world inflation.

But this is a 'global view' which may be too sweeping for many readers to accept. At the least it is an attempt to suggest that the Swiss banking system has not been overly conservative; quite the contrary, its conservatism has been a valuable counterweight to the inflating Anglo-American banking systems which have gone too far.

5 The Swiss National Bank

A pamphlet distributed by the Swiss National Bank begins with the following paragraph:

> A stable monetary system is one of the prerequisites for the prosperity of the economy. *Experience* has shown that the creation of money must not be left to market forces but has to be regulated by a public body. This task is performed by the central banks.[1]

'Experience', of course, has also shown that central banks have made colossal mistakes in the past.[2] They have contributed to deflation and certainly, in league with governments during times of stress such as war and post-war periods, have been largely responsible for inflation. Central banks are administered by humans and are subject to human error. Market forces, on the other hand, are impersonal, and while we might not believe that money is a 'commodity' like other commodities to be priced in a free market, we do, none the less, surrender the impersonal efficiencies of market forces when we decide to place the control of the money supply in the hands of central bankers. There is one exception to this.

There is overwhelming evidence that there is one money and banking area which cannot be left to the free market; this is the independent issue of banknotes by individual banks. In its historical experience with the free issue of banknotes, Switzerland shares common ground with other countries – Great Britain, the United States and Canada, for example (doubtless many others as well) – and the importance of a centralised monopoly of note issue was the earliest need to be considered by the Swiss as a rationale for a central bank.

In Switzerland's case, the difficulty lay in the Paris foreign exchange market. Since Switzerland was a member of the Latin Monetary Union, an agreement whereby France, Belgium, and Switzerland elected a uniform gold and silver currency system of unrestricted legal tender, its banknotes and their convertibility at the agreed exchange rate became a problem. It was, rather, the relation between an excessive quantity of banknotes and their convertibility at a one-to-one ratio that was seen to be the difficulty. Some control of the banknote issue, therefore, was recommended, even during the nineteenth century.

Certainly the introduction of the National Bank in 1907 did have a profound effect on the Swiss banks of issue, many of which relied on their banknotes for a major part of their revenue. By the time the adjustment to the note issue of the National Bank was complete, i.e. by 1912, many banks had simply wound up their operations while others, particularly Cantonal banks, had gradually switched over to the new system. It was rather curious, however, that shortly after the National Bank began operations, the note issue of the National Bank *exceeded* the total of the issue of all the other banks. The initial National Bank issue at the beginning of the adjustment period in 1907 was Sf 57 million which grew to Sf 254.8 million by 1910. This was Sf 20 milllion more than the total issue of all the banks in 1907.[3] Contrary to general opinion this suggests that the free market system of note issue did not result in an excessive quantity of notes, relative to a government monopoly system. It was, rather, the variety of banknotes which was the problem, and this proved to be the only real difficulty with the old multi-banknote system.

There were three fundamental changes introduced into the banking system along with the National Bank which are worth noting and which can be considered as foundation stones for the banking system of the future. (i) Former issuing banks discovered that they required very much less gold cover (if any at all). This meant that the gold reserves could be concentrated within one bank only, a gain of efficiency. (ii) The Giro system began to develop in the same year as the introduction of the National Bank. This greatly improved the method of discharging obligations not only for the public, but for banks as well. (iii) The Accommodation Bills were discontinued. With these three fundamental innovations, the foundation for the modern Swiss banking system was laid.

Another development which accompanied the introduction of the National Bank and which has been discussed in preceding chapters is worth repeating. During the 1910–14 period and the liquidity crisis which resulted from the concentration of the right of note issue with the National Bank, the banks had already restructured their 'banking paradigm' so as to adjust to the new circumstances.

The change began in the latter years of the nineteenth century, when banks which had been using their own resources for lending moved, slowly at first, to the use of funds borrowed from the public using their own resources as security. By 1914, the transition was complete so that balance sheet totals were greatly expanded. At the same time, the public could use its deposits with banks as a means of making payments

through the mechanism of the Giro system; in effect, an expanded money supply accompanied the increased asset totals.

Obviously the question of how much expansion was possible under the new conditions had to be settled, eventually by the Federal Law of Banks and Savings Banks which was passed in 1934 and last revised in 1970. The amount of borrowing from the public relative to the 'own' resources of the banks are the legal ratios which we find in balance sheet statistics now and which are considered as legal reserves. They are, at present, 2½ per cent of 'own' funds to cover 'quick' (largely liquid) assets, 5 per cent of 'own' funds as cover to assets secured by real property in Switzerland (mortgages), and 10 per cent for other assets. What happens in reality is that these legal reserves are treated by the banks as the absolute minimum. Additional reserves (those above the minimum) of the five largest banks were 103 per cent of the legal minimum when the 1970 revision of the Act came into effect.[4]

THE STRUCTURE OF THE SWISS PAYMENTS SYSTEM

As in most countries, the central bank lies at the heart of the monetary system, and the Swiss National Bank is no exception, for it is here that the monetary base is determined. The 'monetary base' is, as the term implies, the foundation (like an inverted pyramid) of the entire money and banking system.

For the purpose at hand, we can roughly divide the monetary systems of the capitalist world into two types:

(1) The first, of which the Swiss monetary system is representative, structures the assets of the central bank so that both foreign exchange and gold are included as a major part. Foreign exchange is generally meant to include only those currencies which are referred to as hard currencies, i.e. the currencies of the former gold exchange standard.

The monetary base of this system is either the assets or the liabilities of the central bank (since assets must have a counterpart on the liabilities side – it matters little which is used). It follows that any increase in the gold or foreign exchange holdings increases the monetary base of the system. Conversely, a reduction in foreign exchange holdings will decrease the monetary base.

(2) A second group of monetary systems does not have foreign exchange as the principal entry on the assets side of its central bank balance sheets. We find, instead, government securities to be the largest single asset. Foreign exchange is sometimes found in a separate

account such as the Exchange Equalisation Account, which is quite separate from the central bank's balance sheet, though administered by the central bank. Foreign exchange is effectively 'sterilised' as far as the monetary base is concerned.

This second group of countries (of which the Anglo-American nations are typical) prefers to exercise its own control over the monetary base (and the money supply) in the belief that human decision-making is to be preferred to the arbitrary movements of foreign exchange. The logic appears to be that since the balance of payments surpluses or deficits, capital movements, etc. are responsible for the amounts of foreign exchange assets in the first place, and if the latter can be insulated from the money supply, the amount of money in the system can be entirely subject to the control of the monetary authorities. The underlying assumption here is that the monetary authorities are more capable of deciding upon the 'correct' amount of money for the economy than is the free market which itself determines the amount of the monetary base in accordance with trade and capital flows.[5]

While the logic for the second group appears to be sound enough at first sight, we would argue to the contrary. Experience has not shown that monetary expansion or contraction ought not to be left entirely to the control of market forces. This is especially true in recent years when the ebb and flow of Euro-currencies into and out of national economies literally bypasses the monetary authority's attempts at control of the domestic money supply. Very little by way of anti-inflationary policy can be accomplished by monetary restriction when Euro-banks can readily provide investment funding in place of domestic funding. Much is affected, on the other hand, by domestic monetary expansion, because, in this case, whatever world inflationary pressures do exist can be enhanced through monetary expansion within the domestic economy itself. There is, thus, an assymetry in the system heavily biased towards inflation unless a world agreement on the appropriate monetary policy can be reached – a utopian dream.

The root of the problem appears to lie in the fact that individuals are neither sufficiently wise nor have the necessary informational input into decision-making within the necessary time period. Monetary policy decisions must be made in advance of economic developments, to be effective.[6] But there is a secondary consideration. Government securities as a major part of the monetary base require that the central banks be able to adjust these according to the decisions of policy-makers. Open market operations must be available in sufficient

amounts to make this possible. Again this is a highly doubtful circumstance, and involves decisions such as what kind of securities, and how much in terms of value should be sold or purchased to effectuate a specific monetary policy. We have had sufficient adverse experience with attempts at 'fine tuning' to be quite disillusioned on this score.

We may, therefore, consider those central banking systems of the second category as the 'inflating countries', for the reason that there is a tendency for central banks in these countries to ensure that government deficits will be financed at reasonable interest costs as they arise. Such deficits, as is now common knowledge, *do* arise and tend to become uncontrollable. This inevitably means that central banks always stand ready to provide the necessary financing for the government by means of whatever mechanism is appropriate.[7] When the USA or Great Britain acts in this way, the result is likely to be not just domestic inflation but world inflation, since deficits in the balance of payments in these countries expand the monetary base of countries of category one.

The Exchange Equalisation Account of Great Britain was created during the early years of the Great Depression (the Finance Act of 1932) for the purpose of purchasing gold and foreign currencies to prevent daily fluctuations in the value of sterling. The Finance Act of 1946 extended the uses of the Account to more general purposes; in other words, to make it a permanent custodian of the foreign exchange reserves.

The Account works by acquiring capital from the Consolidated Fund with which it purchases tap Treasury Bills. It then uses the bills for the purpose of acquiring the necessary funds from the Exchequer to purchase foreign exchange. When it sells foreign exchange (should the pound tend to appreciate in value) it lends the proceeds back to the Exchequer.[8]

The Canadian Exchange Fund Account is similar. The Bank of Canada purchases (or sells) foreign exchange for the Account using federal government funds 'on behalf of the people of Canada'. Its purpose, like its British counterpart, is to stabilise the value of the Canadian dollar. In both cases, foreign exchange is *not* included in the monetary base of the respective countries.

In the United States, the balance sheet of the Federal Reserve System includes gold certificates in its assets. These are the counterpart of the Treasury's gold, but are actually a rather small part (about 8 per cent) of a much more important item in the assets – United States

government securities. The point is that in all three of these countries, government securities are the most important part of the monetary base, and in Great Britain and Canada, foreign exchange has nothing to do with the money supply.

THE MONETARY BASE OF CATEGORY ONE COUNTRIES: SWITZERLAND

In many countries (the word 'many' resulting from a cursory examination of a sampling of central bank balance sheets) foreign exchange reserves are part of the assets of the central bank, and in Switzerland they are by far the largest part. Government securities are very small (only 5 per cent) relative to foreign exchange holdings.

The monetary base consists of the sum of the appropriate positive items in the assets of the Swiss National Bank less those items (negative) which reduce the monetary base. The relation can best be shown in Table 5.1.

Table 5.1 The Swiss monetary base for 1985

Item	*Value (Sf million)*	*% of total*
Foreign exchange	+34 736	115.4
Bonds	+1 832	5.9
Refinancing credit (swaps)*	+13 695	44.0
Lombard credits (etc.)	+1 043	3.3
'Other' items**	−19 590	−62.9
Maturing refinancing credit	−574	−1.8
'Adjusted' central bank money	31 142	100.0

*Through the refinancing credits, Swiss banks are able to adjust their end-of-month cash reserves. By swapping, a method now very popular with the banks, temporary adjustments may be made.

**This includes items under both assets and liabilities of the SNB which reduce the amount of central bank's money.

Source: Table 8, *Monthly Bulletin of the Swiss National Bank*, 1985.

The importance of foreign exchange in the money of the central bank (referred to as M_0) is obvious by its relative size. Unlike the government bonds in central banks of other countries, those of the Swiss government are very small in amount, making anything approaching 'open market operations' in federal debt impracticable at the present time. This contrasts sharply with the annual reports of the

central banks of some Latin American countries, in which central government debt looms very large.

The monetary base (or central bank money) is not, of course, the money supply of Switzerland or any other country. The actual 'money supply' consists of appropriate deposits of the banking system plus the paper currency, the banknotes, in circulation. In the Swiss accounts, the amount of central bank money in circulation is rather large relative to deposits: Sf 23 320 million at year's end for 1985, which means almost 35 per cent of the total money supply (M_1) of Sf 66 976 million. The Swiss just prefer to use banknotes and Giro accounts rather than cheques – it is as simple as that.

From the monetary base (or M_0) we move to the development of the money supply, M_1. This includes both money in circulation (notes and coin less the amount of banknotes held by banks, etc.) and sight deposits of the banking system. At the end of the year 1985, the notes and coin actually in the hands of the public (*Bargeldumlauf*) amounted to Sf 23 320 while the sight deposits were Sf 43 656 making a total for M_1 of Sf 66 976 million.[9]

It is the relation between the sight deposits of the banking system and central bank money (the monetary base) which is important. In the 'continental' system, this is accomplished via the Giro – a method not unlike the clearing house principle with which the British and North Americans are quite familiar. In the Swiss case, the technique involved rests upon the fact that there are actually two Giros, one for the general public, the postal Giro, and the other operated by the SNB. Both accounts are held with the SNB, are interest free, and are used for discharging obligations between banks and other financial institutions. Thus, those banks with Giro accounts at the SNB can transfer balances from their postal Giro accounts to the SNB postal Giro account, and have their balance further transferred to their SNB Giro account from the SNB postal Giro account. The amounts thus credited to the SNB Giro account are available for transfer within the entire Giro system of the SNB. In this way the bank clearing mechanism is operated with the SNB acting as the main clearing centre for all the eight clearing centres in the country. Instead of cheque clearing, as in the British–American system, bank cash is transferred via the Giro.

Since the cash and giro accounts are the ultimate liquidity (for debt settlement purposes), it follows that the Swiss banks in their process of borrowing from and lending back to the public, thereby creating claims against themselves (deposits), are effectively checked by the avail-

ability of the cash and Giro accounts. This is part of the banking paradigm discussed in the preceding chapter, and it means that neither sight deposits nor savings deposits can be expanded indefinitely. Indeed, the Swiss paradigm 'tightens' the monetary expansion process considerably earlier than does the British or North American banking method, for the reason that cash and Giro accounts are used by the Swiss much more readily than by Americans. This is what is often referred to as a 'drain of cash', which happens to be much greater in Switzerland.

It is not difficult to see how this comes about. Since, as we discussed above, the ultimate settlement of debt is by means of cash or (what is actually the same thing) Giro balances, any tight money policy restricts the growth of cash relative to the growth of business activity. In order to finance its activity, then, business enterprise must resort to its M_1 balances (or sight deposits) and draw these down in exchange for cash. But, since cash has a fairly constant velocity of circulation via the Giro system and forms a large part (35 per cent) of the money supply, the possibility of business enterprise accommodating the lower growth of the supply of cash is limited. There are no cash substitutes; hence it is not possible for business activity to maintain growth under the circumstances of a drawdown of sight deposits. Ultimately, a slowing-down of business activity must result from a tight money policy which is translated directly into lower inflation rates via a quantity of money effect.

This contrasts rather sharply with the effects of tight money in the Anglo-American system. In this case, 'money' is no longer defined with any degree of exactitude. Shifts from different types of deposit accounts with varying degrees of liquidity will take place as tight money is implemented. Banks can still accommodate borrowers by encouraging more savings deposits relative to notice deposits, with the result that interest rates in banks rise quite significantly during a tight money policy. Quantity of 'money', however defined, will not be affected to a significant degree; only the cost of money is so affected.

THE RECORD OF MONETARY CONTROL

Since foreign exchange forms such a large part of the monetary base, an increase in the foreign exchange reserves of the National Bank is translated readily into a corresponding increase in the monetary base. This eases the money supply by providing the Swiss banks with

additional ready liquidity or cash. In a word, the Swiss money and banking system is extremely sensitive to changes in its foreign exchange reserves; far more so, one might add, than 'category two' countries for which government securities form the largest part of the monetary base, and certainly more so than Great Britain and Canada which have the Exchange Equalization Accounts as 'insulators'.

This sensitivity leads directly to a relationship between the domestic price level within Switzerland and that of other countries. The Swiss have observed, via a Quantity Theory of Money Analysis, that:

> Experience has in fact shown that a pronounced increase in the money supply leads to a rise in the price level and that a slowing down of the growth in the money supply has the effect of curbing inflation. The price level does not, however, react immediately to changes in the money supply (M_1); there is a considerable time-lag – in Switzerland it is two to three years. Econometric studies suggest that an annual rise of 2–3% in the monetary base ensures longer-term stability of the price level.[10]

The relationship, therefore, between the Swiss domestic price level and that of other countries depends upon the necessity to maintain a stable franc exchange rate. Under a regime of a stable exchange rate, the SNB must purchase foreign exchange, expanding the monetary base thereby, to keep the rate from appreciating. Conversely, it must sell foreign exchange to halt a depreciation. This, obviously, means that the banks find 'easy' or 'tight' monetary conditions depending upon the accumulation or diminution of foreign exchange reserves. The following diagrams, Figures 5.1, 5.2 and 5.3, indicate the consequences, in terms of price level changes, of maintaining a stable exchange rate in Switzerland.

During the years of the Great Depression, Switzerland's currency was tied to gold with the parity of the franc fixed in terms of gold. Swiss currency was convertible into other currencies at that particular parity. The result, as is apparent from Figure 5.1, was the deflation of the franc along with the deflation of the US dollar during the depression years. The depression was exported, as it were, as neatly as any physical commodity by means of a decrease in the supply of money. This was the consequence of the fixed rate of exchange.[11]

The opposite, inflation, was exported by other countries to Switzerland, again by means of the fixed rate of exchange. This we can see by means of Figure 5.2 showing consumer prices in both

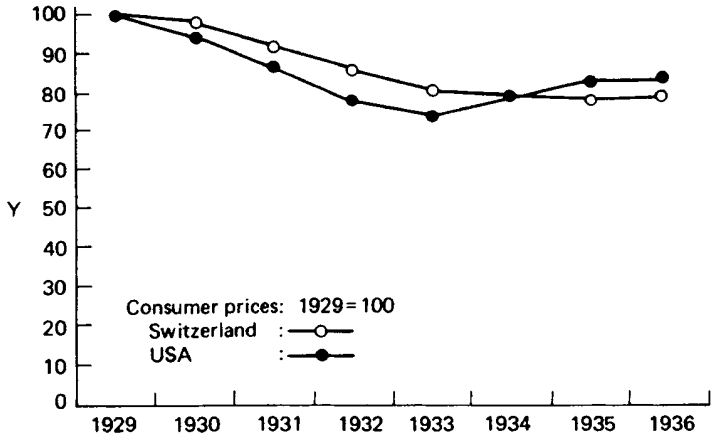


Figure 5.1 Comparative price changes, 1929–36

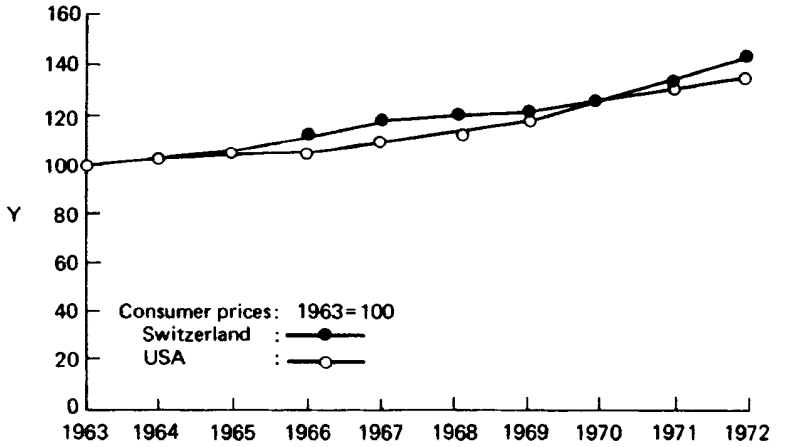


Figure 5.2 Comparative price changes, 1963–72

Switzerland and the USA. The results of an inflationary expansion of the money supply are as apparent as deflation. In this case, the Swiss franc held its fixed parity with the dollar in accordance with the Bretton Woods system. The result was that Switzerland participated in the worldwide inflation purely because of the necessity to increase the holdings of foreign exchange in the National Bank.

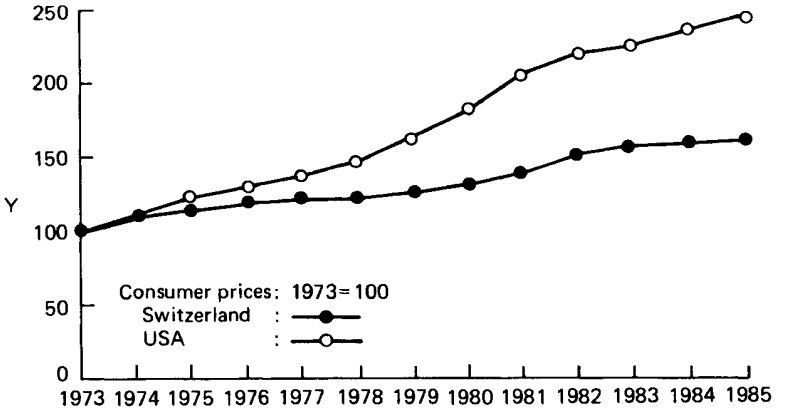


Figure 5.3 Comparative price changes, 1973–85
Source: All three charts show estimates taken from Pierre Languetin, 'The Changing Face of Monetary Policy', *Bulletin*, Crédit Suisse, vol. 92 (Summer 1986) p. 9.

The switch from fixed to floating rates in 1973 and its effects are clearly seen in Figure 5.3. Since it was no longer necessary to accumulate foreign exchange reserves to support the exchange value of the franc, the quantity of money (M_1) no longer increased to the same degree as before. The result, of course, was the stable price level in Switzerland as compared with the United States.

The effect of floating the franc was rather marked. Switzerland no longer shared in the world's inflation rate; indeed, there was virtually no inflation at all during the mid-1970s. This meant that Switzerland became a haven for foreign capital seeking inflation proofing for its own funds which were suffering from the erosion of real value in the home country. The massive influx of foreign capital resulted, therefore, in an overvaluation of the franc.

Since it is capital and not exports and imports of goods and services which determines exchange rates, the demand for the franc for investment purposes was greatly exceeded by the supply, with the consequence that the price of the franc rose. This was a disaster for Swiss exports which were then *underpriced* (from a domestic price level point of view) but very much *overpriced* to foreign importers because of the overvaluation of the franc. Purchasing Power Parity, in other words, no longer applied. The result was that in 1978 the National Bank intervened once more to purchase foreign exchange

and maintain a lower value of the franc. Thus, instead of persevering with its M_1 target, the Bank substituted a target for the exchange value of the franc.

Interestingly, this target substitution resulted in an 'explosion' of M_1 which rose by 16.2 per cent during 1978. True to form, the consumer price index began to rise again in about two years (see Figure 5.3).[12] This led the National Bank to revise its strategy once more to focus on a targeted growth rate for the monetary base rather than for M_1.

The National Bank no longer intervenes in the foreign exchange markets either to stabilise the franc or to implement monetary policy. What it does, instead, is to use the swap transactions to make available additional cash to the banks at the end of the month when banks require additional cash to settle their interbank transactions. The banks sell the foreign exchange to the Bank with a 'buy back' provision at a stated value. This provides the necessary cash. Repurchase agreements utilising bonds are also engaged in at the end of the month when interbank payments are highly concentrated. These repurchases are shown as the third item in the monetary base outlined above (Table 5.1).

There are additional powers available to the National Bank which are really a form of direct action, i.e. the control of the issue of domestic bonds and other types of market paper. For instance, the foreign borrowing case mentioned before via domestic bond issues in foreign currency must have the approval of the National Bank for amounts in excess of Sf 10 million and with a maturity period of over twelve months. The approval granted by the Bank would be contingent upon exchange rate pressures which exist in the market.

Such tight controls lead the Swiss banks further into the business of accepting foreign deposits, then lending or investing these deposits in foreign currencies – a kind of 'turntable' effect. The banks, seeking the highest returns, push the deposits out again without having any influence on the exchange rate of the Swiss franc or the money supply.

Under extreme circumstances the National Bank can also control the money supply by means of the direct control of the import of capital and the encouragement of the export of capital. This has the effect of restricting the demand for foreign exchange. In addition, it reduces the amount of foreign exchange holdings in the National Bank thereby maintaining the existing money supply at the same level. Such drastic methods were resorted to during the 1970s but were 'unpleasant' to say the least, and Swiss bankers hope they will not recur.

THE NATIONAL BANK IN A BANKING SYSTEM

The control methods discussed in the previous section are broadly similar (in principle) to the institutional controls in any country. The precise nature of the institutions is different as well as the control devices; whereas Anglo-American banking relies heavily on open market operations, the Swiss, or Continental, system depends upon the foreign exchange reserves and swap agreements for its method of control. The Swiss Banking Commission, too, does not have an exact counterpart in the Anglo-American system, but again that is to be expected.

What is of much greater interest, and somewhat 'mysterious', is what happens when the mechanical control mechanisms are either not effective or are not being strictly applied. What is it, in other words, that keeps the Swiss banking system effectively moving forward without any apparent conscious direction on the part of the central bank that is so characteristic of other countries – the US Federal Reserve Board for example? The answer lies once more in the famous Gentlemen's Agreements which are uniquely Swiss.

One has to appreciate, at the outset, that there is an advantage in being geographically small. Zurich, the banking centre of Switzerland, is a small town in the sense that the personnel within the banking industry are all well acquainted. Thus, even though competition among the largest three banks may be fierce, the individuals who work at the management or directorship levels are actually quite close friends. The same is true of the National Bank. Policies, trends, etc. are continuously discussed, so much so that the 'signals' of higher or lower discount rates from the Federal Reserve which are so familiar to US banks are not necessary in Switzerland. We can be assured, therefore, that any changes in loan activity or direction of lending by the Swiss banks has the prior approval, if not the blessing, of the National Bank.

Secondly, it is important to understand the structure of the Swiss banking paradigm because it is, indeed, quite unique. As we have argued in the preceding chapter, the function of banking is to structure liquidities in such a way that the lenders and borrowers are enabled to satisfy the liquidity requirements of each other to their mutual benefit. In all countries, the institutions which evolve to serve this function are those which are adapted to the circumstances of the individual financial environment of the country. Certainly, from the Swiss point of view, there is no realistic distinction at all to be made between

commercial banks and any other financial intermediary in the sense that one 'creates' money whereas the other does not.

The best way to begin an analysis of the Swiss monetary system is to develop a table of liquidities broken down as to source along with their uses classified according to objectives (Table 5.2). Careful inspection of the sources column reveals that deposits from domestic sources were by far the most significant source of fund increases between the two years, 1983–4 at Sf 26.7 billion. These deposit increases were mostly in term and sight deposits, with term deposits being at Sf 10.4 billion and sight at Sf 5.3 billion. The balance is accounted for by the other categories of deposits available to the Swiss public. The Swiss, both the public and business sectors, do save considerably – one might hazard a guess that they are among the highest savers in the world!

Table 5.2 Sources and uses of liquidities (changes from 1983 to 1984) (in millions of S francs)

Sources		*Uses*	
		Cash	
		Foreign	1 536
		Domestic	405
Interbank deposits		Interbank deposits	
Foreign	1 060	Foreign	20 685
Domestic	7 358	Domestic	2 133
		Short-term paper	
		Foreign	3 608
		Domestic	298
Clients' deposits		Clients' credits	
Foreign	19 387	Foreign	12 186
Domestic	26 693	Domestic	25 714
Acceptances,		Participations	
letters of credit, etc.	2.693	Foreign	−1 186
Capital	743	Domestic	1 596
Other		Other	
Foreign	−978	Foreign	1 722
Domestic	9 080	Domestic	−2 481

Source: Tables 2 and 3, pp. 31 and 32, Schweizerische Nationalbank, *Les banques suisses en 1984*, no. 69, Zurich, 1985.

There was, in addition, a substantial increase in foreign deposits – about Sf 19.4 billion. These deposits are likely to be entirely in foreign currency and, therefore, have no effect on the Swiss money supply.

Of the remaining sources of fund exchanges, domestic banks were an important source along with the 'other' domestic source. This latter

consisted of stocks of precious metals as well as net balances arising from the precious metal accounts.

Instead of thinking of the table as 'fund sources' (the commonly accepted terminology), it would be more correct to consider it as changes in liquidity which the Swiss and foreigners are willing to accept. In the case of the 1983/4 change, this was not a significant change, though there has been some willingness on the part of the public to assume a slightly less liquid stance, as is shown by the rather large amount of savings deposits – larger, that is, than for the preceding year's change.

The banks, in their turn, must apportion the additional liquidity at their disposal according to the uses which they deem to be profitable consonant with the appropriate risk level. Considering that much of the increase in sources derived from domestic deposits, it is hardly surprising that domestic credits in the form of 'fixed term advances and current account debts' for domestic borrowers would be the principal use of liquidity. The second largest, foreign interbank deposits, is somewhat surprising, but it does suggest that the banks were shoring up their liquidity in terms of foreign currency accounts. Considering the rather large increase in foreign lending, about Sf 12.2 billion, this may indeed have been the rational approach to follow.

The Swiss banking paradigm lies exactly in between the sources and uses of liquidities. (The word 'funds' rather than liquidities is used in the National Bank publication.) The National Bank also exists within this 'liquidity gap' influencing the banks one way or the other as to how they should structure their liquidities as between foreign and domestic deposits, as well as the degree of 'stretch' between the sources and uses of funds. In the classic example of the negative interest rates for Swiss bank deposits, the National Bank was strongly influencing liquidity to move into foreign uses. Certainly, in the small-town atmosphere of Zurich, the National Bank exerts its strongest influence on how banks should dispose of their liquidities which they derive from depositors.

It is important to recognise at this point that the supply of money is not the responsibility of the banking system any more than an automobile accident is the responsibility of an innocent bystander. When a bank makes a loan by crediting deposits it does indeed make a loan by crediting a borrower with another deposit, but this 'second deposit' is only a means by which the liquidity surrendered by the first depositor may be transferred to the borrower. In the event that the first depositor should *not* surrender liquidity, and the bank should make the mistake of lending by means of writing another liquid deposit

in favour of a borrower, not only the bank will be in trouble, but also, should the practice become general, the economy as well. Inflation will occur as a result of one liquidity not counterbalanced by an illiquidity. Swiss banks, having ample reserves of liquidity, will not themselves suffer the consequences of an excessive desire for liquidity on the part of the public, but consumer prices will certainly rise.

Failure to make clear this difference between money *per se* and liquidity lies at the root of very much confusion. The amount of money is not really important at all; it is, rather, how the public structures its liquidity that matters and what the banking system does with it.

An understanding of this liquidity relationship between lenders and borrowers through the intermediation of the banking system is essential for an appreciation of the all-important foreign lending which is the most interesting characteristic of the Swiss banking system. If we consider the total source of funds for the banks, 32 per cent were from foreign accounts in 1983 and 31.8 per cent from foreign accounts in 1984. This does not include the relatively small amount of funds which enter the banking system to become Swiss franc accounts. Such amounts are deliberately limited by the National Bank because they would likely enter the Swiss money supply (unless suitably locked into long-term illiquid Swiss franc obligations). The percentages, incidentally, apply to the total liabilities of all banks and finance companies for the years 1983 and 1984. (The total in Swiss francs for those years was 656 628 million for 1983 and 722 844 million for 1984.)[13]

The liquidity obtained from foreign sources is 'spun off', as it were, back into foreign credits. These credits must be sufficiently high in quality to do two things: (i) reward the banks with profit, and (ii) protect the liquidity of the original foreign depositor. The latter must be provided because even if liquidity cushions exist between the bank and the depositor such cushions must eventually be replenished.

For very good reason, therefore, we find that Swiss banks lend more extensively to developed countries than to less developed, and, at the same time, they receive more from the developed countries. We find that the British use Swiss banks for their foreign deposits – Sf 59 billion in 1984 – but borrow only Sf 32.6 billion.[14] Considering that the Swiss banks are very much 'on the ground' in London, this is not so surprising. The United States is second in importance, with Sf 44.4 billion in deposits and 26 billion of borrowings.

In terms of fiduciary accounts (those accounts which the banks manage but accept no responsibility for), the developed countries

supply a considerable amount of funds, Sf 172.7 billion, and receive just Sf 50.9 billion. Again, the British are the largest suppliers of funds.[15]

As far as Latin America is concerned, the Swiss had supplied just Sf 10.7 billion by the end of 1984. About half of this sum was invested in Argentina and Brazil, combined with Mexico and Venezuela, accounting for Sf 1.6 billion each. The fiduciary accounts are slightly larger at Sf 11.4 billion. In both cases, these are relatively small amounts compared to the total of foreign lending of Sf 207.1 billion, about 5 per cent, and for fiduciary accounts totalling Sf 156 billion, just 7 per cent.[16]

Should one ask why the Swiss did not lend more to Latin America, the answer would be 'they could not'. The banking paradigm would not permit a depletion of liquidity to such a degree. It is not the National Bank which would directly interfere in this case but the banking principles which the Swiss have established over the years. Thus, it is not that the Swiss bankers are 'saints' in terms of following sound banking principles, but rather that they have learned from the experience of having committed every banking sin in the book. If there is one characteristic which is unique to Swiss banking, as compared to other countries, it is that it learns from its experiences, and it is from these experiences that the banking paradigm is built.

At this juncture, a useful comparison between Canada and Switzerland in terms of their banking systems and money supply can be made. Canada has about four times the population of Switzerland, with approximately the same real GNP per capita ($US 13 284 for Canada and $US 13 965 for Switzerland).[17] Considering the enormous natural endowments of Canada, relative to Switzerland, and the fact that the balance sheet totals of banking systems of the two countries are remarkably similar in value (at Sf 1 = $C.55, the exchange rate prevailing in 1984), it follows that some fundamental differences must exist between the financial systems of the two countries. The first of these differences can be identified within the liquidity structures. Income velocity of circulation of money (GNP/M_3) in Canada was approximately 2, with a variation from 1978 to 1984 between 1.94 and 2.16. The same measure of income velocity in Switzerland is slightly under 1 (a variation from 0.85 to 0.984) during the same time period.

As far as the banking systems are concerned, the deposits of Switzerland are structured toward much less liquidity than that of Canada, permitting the Swiss banking system to extend its credits into longer-term loans (mortgages and the like). This is also apparent from

the substantially lower income velocity of circulation. From this, longer-term investments are possible in Switzerland to create world-scale industries.

All this is done, we must keep in mind, with the minimum of natural resources, at least relative to Canada. But even more important for the purpose at hand is the fact that the banking industry itself thrives, thereby making its own significant contribution to the GNP. 'I am Swiss, therefore I am a banker', is a phrase which can well be used by a generation of Swiss white-collar workers.

A second comparison between the Canadian and Swiss banking systems can be made in terms of foreign deposits. Actually the proportion of Canadian banks' total assets which are invested abroad is greater than the Swiss: 46 per cent for Canada as opposed to 31.2 per cent for Switzerland.[18] This large proportion of Canadian assets is due to a massive growth rate in foreign assets since 1978 when they were quite small. Unfortunately, the Bank of Canada does not make available the destination of these foreign assets, but we can be reasonably certain that they are a combination of Euro-Canadian dollars and direct foreign loans to countries which are likely to be those toward which the Swiss banks are so cautious in their lending policy.

THE SWISS vs. THE ANGLO-AMERICAN PARADIGM

As argued above, Swiss banking consists of a structure of liquidities between the two different liquidities of lender and borrower. In this banking structure the Swiss National Bank participates. It develops policies as well as the measures for implementing the policies. The fact, for instance, that there is no 'Euro-Swiss Franc' is the result of a deliberate decision on the part of the Swiss government and the National Bank. The famous negative interest rates for Swiss franc deposits arising from foreign sources was a policy measure of the SNB.

Unlike the Swiss, the Anglo-American banking structure has no central bank capable of acting in the area of foreign lending. Banking laws and regulations apply only to domestic banking, and there are no 'gentlemen's agreements' in operation either to render advice or to restrict imprudent lending. Still, the fact remains that the banks themselves, moving into an area without regulation, apparently seemed to ignore reasonable standards of prudence and wisdom. Why? We may answer this question with a hypothesis, which, we would suggest, is as rational an explanation as can be found anywhere –

they had no banking paradigm suitable to the new foreign lending situation in which they found themselves.

To understand and appreciate the situation surrounding Anglo-American banks, we must also understand what was happening in the financial world during the early 1970s. Huge volumes of Petro-dollar deposits were accumulating on the 'sources' (liabilities) side of the banks' balance sheets in London and New York. These were the balances of excess liquidities which were not immediately required by the OPEC countries and simply *had* to be loaned out. Interest was being paid for these deposits, and the consequences, without loans to earn corresponding interest, could have been disastrous.

At the same time that these deposits (or liquidities) were accumulating, the British banks found themselves in a most interesting circumstance. Historically, London had been the financial 'pivot' of the world. But, though sterling was no longer the world's strategic currency, having lost to the dollar in that regard, there still remained the potential of regaining some of that pivotal position in terms of Euro-currencies. Thus, there were two broad psychological currents in effect. While London banks were actively seeking opportunities to restore their historical position of prestige via the Euro-currency markets, the mass psychology of the world's industrial countries was growing more sympathetic to the plight of the less developed or developing nations. It was trade, not aid, that mattered. Instead, therefore, of relying upon the World Bank – i.e. purchasing the bonds of the World Bank so that it could make the necessary loans using its own appropriate standards and criteria – the banks in London and New York recognised an opportunity to extend their own form of economic assistance. This they proceeded to do by lowering interest rates on loans and actively seeking borrowers. They *pressed* loans onto foreign borrowers at rates which were too low, given the circumstances of risk, yet still substantially higher than their own domestic rates. Further, since domestic borrowers were unable to absorb the huge amounts of loans which were involved regardless of the interest rate, foreign loans remained as the only acceptable alternative.

It was here also that the Anglo-American banking paradigm either broke down or was non-existent for the purpose at hand. The banks recognised that, as banks, they ought to be present in the form of foreign branches as lenders. Furthermore, no individual bank wished to be 'left out': in the sense that when a major bank – Citicorp, for instance – believing that nations cannot go bankrupt for political reasons, begins a process of lending to foreign borrowers, others will

follow. This 'band-wagon' psychology can start a massive competition among banks for lending to Mexico, Venezuela, Brazil, etc. Thus, instead of the customer approaching the banks for credits, the banks approach the customer, each offering better terms than the other. (Not until July 1982 did Mexico actually *approach* the banks asking for further loans, and this was to assist in meeting interest payments on earlier loans.)

Indeed, the customers found themselves in the extraordinary position of being able to be selective amongst lenders on a *quid pro quo* basis: i.e., if you don't give us a loan, you won't have the opportunity to open branches in our country', etc. Carlos Langoni, whose essay was discussed in the preceding chapter, was quite justified in his criticism of this aspect of the behaviour patterns of Western banks.

Unlike the Swiss, Anglo-American banks had no paradigm for foreign lending. Loans officers, for example, were pressed by their superiors to increase loans. Since the possibilities of loan defaulting and what to do about it were the responsibility of some other officer in the bank (and anyway this was in the future), what mattered was the movement of deposits into lending *now*. But even if the 'other officer' were called into the loan negotiations at the outset it was unlikely that he could have assessed the risk involved. The reason was that there was no adequate method of assessing the risk; i.e. the paradigm as defined above for the Swiss banking system simply did not exist for Anglo-American banks.

In a large measure, we are prisoners of our own history. The Swiss banks were able to meet the challenges facing the world's banking systems because they were prepared – their history had prepared them for the task. Interestingly, even the Swiss National Bank found itself caught up in the lending frenzy and urged Swiss banks to increase their loans to the Latin American sector. It was the banks' top management that realised from past experience that the world economy was not on a continuous upward growth trend but that the business cycle in some form would reassert itself once more. The situation to the ever-conservative Swiss banker called for caution.

History had not prepared the Anglo-American banks for the important position in which they found themselves. Banking paradigms are long in developing, and since foreign bank lending for purposes of economic development on such a scale had never existed before, these banks were totally unprepared.

It was precisely here that Swiss banks not only were prepared but excelled. The Swiss had had the historical experience in the business of

foreign lending. They could evaluate credit-worthiness because they knew how to do so. Their institutions, including the National Bank, were equal to the task, and when their intuitions counselled against further lending, they were equipped to avoid the financial debacle even at the risk of a possible loss of profits.

Part II

A Theoretical Structure of International Banking in Conditions of Inflation

6 An Analysis of Deposit and Credit Markets

SWISS MONETARY CONTROL

In Chapter 5, the relationship between the Swiss monetary base, foreign exchange, and, finally, the money supply of that country, was identified. In the Swiss case, control of the money supply was made possible with the end of the era of the fixed exchange rate, thereafter making it unnecessary for the National Bank to purchase foreign exchange. The monetary base could, therefore, be exactly what the National Bank wished – just sufficient to restrict the money supply, M_1. This finally brought down the rates of monetary expansion and the rate of inflation which hitherto had been imported as a result of the necessity to maintain the value of the franc.

It is this latter experience, the ending of inflation, which must prove the general truth of the Quantity Theory of Money. However one might wish to argue or to justify an alternate logical position, changes in the quantity of money must, in the last analysis, be considered as a cause of changes in the price level, even though 'unwanted' changes in levels of employment might occur at the same time. But, by controlling inflation, the Swiss National Bank traded off the twin phenomena of an enormous appreciation in the franc due to a sustained excess demand for the franc (the result of massive inflows of foreign capital), and unemployment.

For the Swiss, under a regime of fixed exchange rates, a tight money policy to control inflation is therefore impossible. 'Tight monetary policy', in this case, means, quite simply, checking the growth of the monetary base at the discretion of the National Bank.

Suppose the Swiss were to attempt to control inflationary pressures via control of the money supply (not the monetary base). Such a tight money policy must mean rising interest rates since banks are forced into their deposit markets to attract the all-important illiquidity to finance their credit markets. But, in an open banking system of which the Swiss are the example *par excellence*, this means an inflow of foreign funds to take advantage of these higher rates, hence the monetary base is automatically (especially under a fixed rate regime) increased once more. The tight monetary policy is frustrated unless

specific measures are taken to restrict the inflow of foreign capital directly into the Swiss economy. This latter measure the Swiss did undertake by means of the now famous 'negative interest rate' on foreign deposits.

Without such restrictive measures on the inflow of foreign deposits, monetary policies of the United States – as, for example, an easy policy with low interest rates to stimulate employment – would likely result in inflation in Switzerland because of the inevitable flow of investment funds from the USA to Switzerland. Whereas the United States may have unemployment levels that are unacceptable to that country, Switzerland may have full employment and inflation; indeed, to generalise for all of Europe, it would be a remarkable coincidence if the Federal Reserve Board could make decisions which would be appropriate for the state of employment or inflation in all countries.

The opposite case, a completely floating exchange rate, relieves the Swiss National Bank of the obligation to purchase foreign exchange, and domestic monetary policy can be pursued in relatively complete insulation from the policies of the rest of the world. This does not mean that there is danger of exchange rates rising without limit, because, theoretically at least, there is a market consensus as to an equilibrium rate of exchange to which, when overshot, the rate will likely return.

The argument against floating rates must be based upon other than purely monetary grounds. We can do this by resorting to the 'real economy' because rising exchange rates increase the cost of exports, and, as the Swiss discovered, result in unemployment.

When the exchange rate of the Swiss franc was targeted again in 1978 for the purpose of assisting the export industries, the result was an 'explosion' of the money supply M_1 once more, and, of course, a return to inflation. The economic problem, then, is thrust back to the age-old question of which should make the adjustment – industry, to a new, and higher exchange rate, or the exchange rate to the requirements of an export industry.[1] In the former case, it is a microeconomic question of an improvement in industrial efficiency to compensate for the higher cost of the currency. In the latter, it is a macroeconomic adjustment of the cost of all exports to the rest of the world with the objective of stimulating domestic employment.

The 'dirty float', pioneered by Canada, is certainly an attempt to reach a compromise between these two objectives. However, as is typical of all human decision-making, the particular level of the exchange rate appropriate for central bank intervention becomes subject to disagreement as the conflicting economic interests which

happen to be paramount tend to determine national policy. In the case of the Bank of Canada, the avowed objective of the Bank in continuing its intervention in the foreign exchange market is simply 'to maintain an orderly market for the Canadian dollar', but it is doubtful that this is taken seriously by anyone.

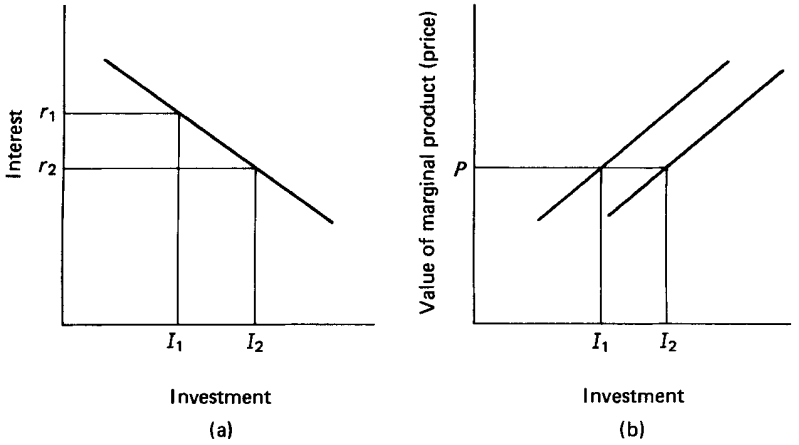
The United States, unlike other countries, is in a unique position, since (i) its currency is the major world reserve currency, and (ii) the Euro-dollar is the major Euro-currency. Thus, a tight money policy developed in the USA alone would likely result in a flood of Euro-dollar currencies re-entering the USA, but since such dollars are claims against the US economy, just as are domestic dollars, their 'return' means that these claims are effectively wiped out.

Since it is only the ownership of the dollar deposits that matters, the process of Euro-dollar 'creation' is reversed to mean Euro-dollar 'destruction'. Certainly the dollar exchange rate is unaffected by such an event, and all that really happens is that less dollar claims are outside the country than before. No 'geographic transfer' takes place in this case.[2]

AN ANALYSIS

The fact of inflation introduces an additional variable into the monetary system, which, when taken into consideration by economic decision-makers, causes a massive instability in the world economy. This is not only inevitable but impossible to avoid by appropriate hedging. It is this, plus the economic inefficiency which results, which is likely to be the most serious of the detrimental effects wrought by inflation.

We can gain analytical precision, by taking advantage of the simple but very powerful analytical tools familiar to all economists. To begin with, we can show, in Figure 6.1 (a) and (b), a simple investment function which has a negative slope relating interest and quantity of investment (in money terms). In diagram (a), it is obvious that the lower the interest rate, r_1 to r_2, the cost of investment, the greater is the quantity of investment I_1 to I_2. In this case, it is investment financed by debt only. (Investment financed by sales of new equity will, of course, increase with rising interest rates – a factor often overlooked by our textbook writers.) The elasticity of the investment function will depend upon the degree of responsiveness of the debt form of investment to interest rate changes.



Figures 6.1 (a) and (b) Investment, interest and the value of the marginal product

Investment also has a 'price'. The price is actually the *anticipated* value of what is produced by capital. In terms of the marginal unit of capital invested, it is the anticipated value of the marginal product. This is a positively sloped function as indicated in diagram (b), and, again, the elasticity will be determined by the degree of response of investment to changes in its price. A lowering of the interest rate, as in diagram (a), will shift the function to the right as investment increases with no change in the anticipated value of the marginal product.

Since we have a positive and a negative function relating investment to price and cost, it is a simple matter to combine the two relationships at an equilibrium level, thus,

$$f(r) = g(P), \text{ with}$$
$$f' = -, g' = +$$

This states that, *assuming equilibrium*, a certain decrease in r can be the equivalent of a certain increase in P. Or, to express the same principle slightly differently, private investors are *indifferent* as between a decrease in r or an increase in P, again, assuming positions of equilibrium. With the rate of interest, r, on the vertical axis and the anticipated price level, P, on the horizontal, this equilibrium relation will have a negative slope. Such a diagram would appear as in Figure 6.1 (c).

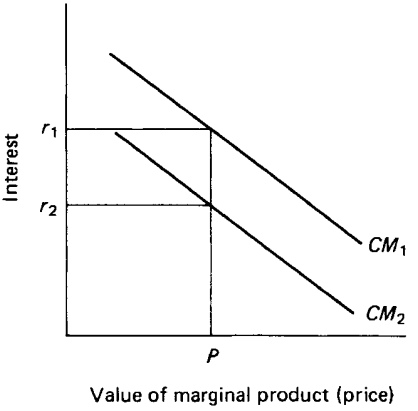


Figure 6.1 (c) The credit market

A 'Credit Market' relation, (*CM*), negatively sloped, relates the interest rate and anticipated price levels (the anticipated values of the marginal products of capital) under conditions of equilibrium in an *r*/*P* two-space. It would, in effect, answer the question, what change in the anticipated price levels would be the equivalent of a specific change in the interest cost of borrowing as far as borrowers are concerned?

An interpretation of the Credit Market relation, as here presented, would be by way of capitalisation of capital assets. Lower interest rates increase the value of assets just as do higher values of the marginal product of capital. Equilibrium between both interest and marginal products is, therefore, attained via the capitalised values. In actual conditions, we can recognise this equilibrium as an association between low interest rates and higher prices, a phenomenon which most of us have observed.[3]

Capitalised market values are much more important than many of us may have thought hitherto, especially when financial markets approach a degree of perfection common to most developed countries. The capitalisation phenomenon contributes to the well-known negative relationship between equity values in stock exchanges and interest rates, i.e. equities tend to increase in value as interest rates decline. The reasoning here is that lower interest rates stimulate sales in the market for bonds which have increased in value because of lower interest rates. Taking advantage of these capital gains, the proceeds of bond sales then 'spill over' into the market for equities in anticipation

of rising capital values there. Bull markets in the stock exchanges are thereby precipitated. Such rising values on stock exchanges are the equivalent of rising dividends from the higher profits of corporations, which means a higher marginal product of capital. This is exactly what the *CM* relation states.

The elasticity of the *CM* relation is negative and would be defined as $eCM = dP(i)/di(P)$. High elasticities would suggest that a relatively small decrease in the interest cost would be the equivalent of a relatively large increase in the anticipated value of the marginal product of capital, always maintaining equilibrium, and, of course, vice versa.

The 'equivalency' referred to here occurs through the aftermarket for capital – a phenomenon of monetary economics as opposed to 'real' economics following Keynesian principles. Falling rates of interest increase capital values, in the manner just discussed, in the aftermarkets. Suppose, for some reason, interest rates should rise incrementally after an initial drop. A fall in capital values caused thereby would be compensated by an increase in the marginal product of capital which could restore capital values without any further change in interest. This would be the equivalent of a shift in the *CM* relation rightward.

This aftermarket phenomenon also explains why, in the short term, rising prices are associated with low interest rates. To ensure the capitalised value of investment in the 'real' economy, market prices of the product of investment must rise.[4] This contrasts sharply with the Keynesian explanation that low interest rates stimulate investment to the point of full employment of resources, *then* cause rising prices.

Aftermarkets and capitalised values are financial phenomena which are just as 'real', we would argue, in their impact on price levels as the Keynesian explanations.

In the case of a decrease in the interest rate without an increase in prices (a situation likely to occur during recessions) as shown in Figure 6.1 (c), the Credit Market relation shifts downward to a new and lower schedule. Note carefully again that the anticipated price level has not changed; only the interest rate has changed.

Suppose there should be an increase in the interest rate, r. This would reduce the amount of credit demanded in accordance with Figure 6.1 (a), and the other diagram (Figure 6.1 (b)) would adjust accordingly. The changes would be reversed; thus, in diagram (b), there would be a shift leftward in the function relating investment to the value of the marginal product. In Figure 6.1 (c), the Credit Market,

there would be a shift from CM_2 to CM_1 indicating a new set of equilibrium values.[5] This would occur during times of inflation because incentives on the part of the governments exist to restore equilibrium in the Credit Market without changing anticipated prices, P, which can only be accomplished by a new and 'higher' CM schedule, CM_1.

Perhaps more germane is an analysis based upon the decades of the 1960s/70s, when the aspirations of the public in many countries were reflected in higher growth rates in various country GNPs to be followed by the oil price increases of the early 1970s. It was these aspirations, unfulfilled, which precipitated the world inflation. These increases in growth rates would constitute increases in the anticipated marginal revenue products of capital and would be characterised by a rightward shift of the CM function with higher anticipated prices at the same interest rates, an inflation process in its initial beginnings.

Ultimately, producers would apply pressure on the banking systems with the result that interest rates would rise. The final stages of inflation would be reached when rising *rates* of price increase become anticipated along with rising interest rates. Producers, that is, would foresee higher rates of increase for the prices of their products and the CM function would shift rightward more rapidly than before.

We can see this process as a shift from point A to point B in the r/P two-space (Figure 6.2 below). Equilibrium does not exist because interest rates have not risen. Since interest is largely administered by the central authority, a level which is below that of an equilibrium rate can exist for relatively long periods. Ultimately, only rising interest rates can restore equilibrium in the Credit Market at a point C, on a new and higher relation, CM_2, as shown in Figure 6.2. The path of 'travel' need not follow the rectangular course through B, but may work upward with higher inflation rates, P, and higher interest rates, r, occurring simultaneously. Indeed, with very many countries striving for higher living standards and the Euro-currency markets as responsive as we have known in the past, a rectangular path through B would be highly unlikely. What is important is the new and higher anticipated price level, P_2, for capital, and the higher interest rate, r_2, which is on a new and higher equilibrium CM relation. The credit market, in other words, is always striving to keep up with increasing demand for goods and services.

A process of continuous *disequilibrium* can take place with the price of capital continuously shifting rightward. Rates of inflation which increase can shift point B to the right faster than interest rates can keep

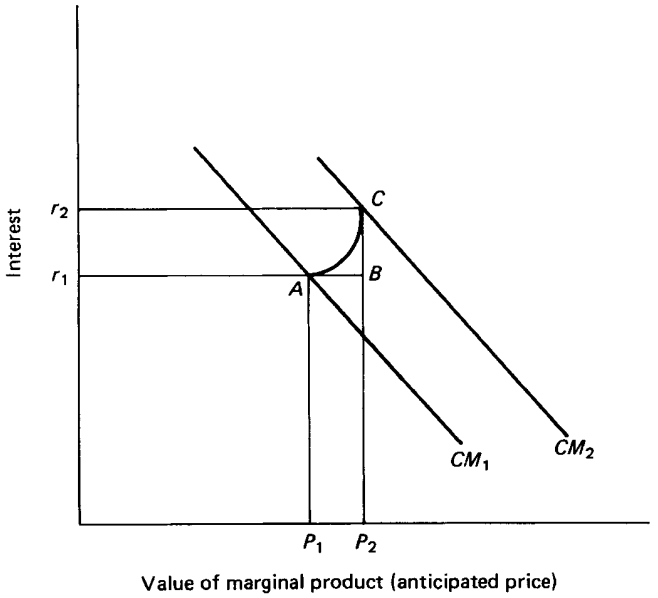


Figure 6.2 Inflation/interest equilibrium in the credit market

pace with, especially if the central authority prefers lower rates of interest as a matter of policy. The northeastward movement, therefore, can be somewhat slower than might be expected.

THE DEPOSIT MARKET

All banks must acquire funds (or liquidity) from the public. In the process of acquiring these funds the banks must offer sufficient interest reward to overcome liquidity preference. This means that there is a second market, a Deposit Market, which must be considered along with the Credit Market.

The characteristics of this market are, first, the relation between interest and liquidity forgone and, second, the relationship between liquidity and the price level. Generally it is true that the higher the interest rate (or other similar inducements) the greater is the amount of forgone liquidity. This will make greater funds available to banks for lending; hence, a positive relation exists between interest and available funds. This is the consequence of liquidity preference.

Secondly, liquidity preference is strengthened when prices generally, and consumer prices in particular, are rising. This is not just the other side of the same coin as the interest function. The two functions are quite independent. At certain times rising prices will increase liquidity rather markedly so that the liquidity preference function is elastic; this is more likely to be true when price increases are anticipated. On the other hand, when price increases are anticipated, liquidity preference may be affected only slightly, if at all. The function is likely to be inelastic.

When rising prices are anticipated (thereby resulting in an elastic liquidity preference function), the function relating interest and liquidity is likely to be inelastic. This means that rather large increases in interest rates will be necessary to encourage forgone liquidity. Additionally, the recent developments of different types of deposit accounts among many banks, which involve the payment of interest to depositors, yet require only the minimum sacrifice of liquidity, create considerably less elasticity in the interest/liquidity function than hitherto. During the recent anti-inflationary monetary policy in the United States, this was a likely factor in interest rates reaching their extraordinary high levels in order to attract the necessary additional illiquidity required by banks.

Similar to the Credit Market relation, the Deposit Market combines two functions, both being positive. Thus,

$$L = h(r),\ h' = +$$
$$L = j(P),\ j' = +, \text{ and, at equilibrium,}$$
$$h(r) = j(P)$$

The higher the interest rate, the greater the amount of liquidity the public is willing to forgo – a positive relationship – and the higher the anticipated price level, the greater the amount of liquidity which the public will prefer for transactions (hence the less available for lending) – again a positive relationship.[6]

Combining these two relationships into one and using the same axes as the Credit Market, we have the 'supply function' of funds from the Deposit Market, once again assuming equilibrium in the Deposit Market (Figure 6.3). It answers the question, given the liquidity preference of the community, what change in the interest rate would be the equivalent of a compensating change in anticipated prices with the amount of liquidity coming forth into the banking system being the same – in other words, an undisturbed equilibrium?

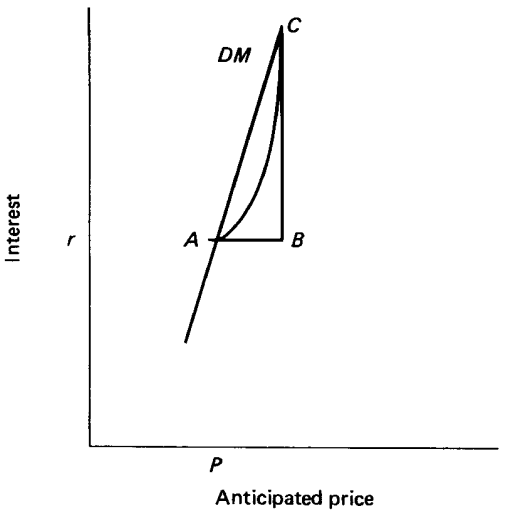


Figure 6.3 Inflation/interest equilibrium in the deposit market

The Deposit Market relation, representing points of equilibrium of the Deposit Market, has been indicated as inelastic, i.e., $eDM = dP(r)/dr(P) < 1$. Under the circumstances of (i) anticipated price levels, and (ii) alternative forms of deposit accounts which offer both liquidity *and* interest, such an inelastic function is quite realistic. Suppose, then, that prices rise in response to inflationary pressures, but interest rates are held constant by the central authorities. This would mean a shift from point A to point B in the r/P two-space. We are off the points of equilibrium so that real interest rates are either negative or less than equilibrium levels as dictated by liquidity preferences. To restore Deposit Market equilibrium, monetary policy must become 'tight' (a slight misnomer in this case, because it means merely restoring the free Deposit Market rate), in order that interest will rise to point C, the equilibrium rate.

CREDIT AND DEPOSIT MARKET EQUILIBRIUM

The task of the banking system is to equate the two equilibria of the Deposit and Credit Markets, this is the function of intermediation. It is made particularly difficult because central authorities often intervene to determine interest rates. It is only when inflation, rising levels of P,

becomes excessive that central authorities decide to alter their policies so as to permit the Deposit and Credit markets to adjust to an equilibrium at what are new and higher levels of interest rates.

In Figure 6.4, both the Credit and Deposit Markets are included in the same diagram. At a certain interest rate, r, and price level, P_1, there is equilibrium, indicated by point A, between both the Credit and Deposit Markets. Since this equilibrium is very important for the analysis which follows in this and subsequent chapters, it is worthwhile considering its meaning in some detail. Both the *CM* and *DM* relations represent structures of liquidity which are appropriate for borrowers, the Credit Market, and lenders, the Deposit Market. The liquidity structures are those appropriate to the interest rate and the inflation rate, i.e. anticipated prices. Should, for example, deposit-holders anticipate rising prices, liquidity structures would tend toward the liquid end, requiring higher interest rates as rewards for illiquidity. This is precisely what liquidity preference means. Borrowers, on the other hand, recognising low interest rates as costs of capital, would normally prefer to structure their liquidity toward the less liquid end, which would provide, at the same time, greater values of the marginal product of capital.

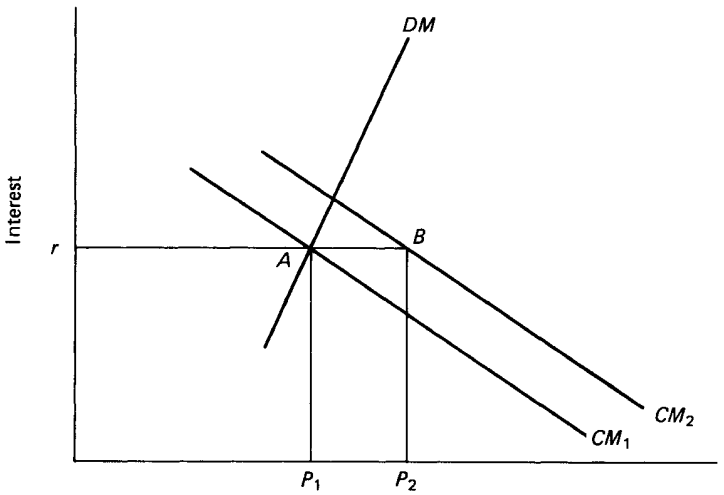


Figure 6.4 Deposit and credit markets

Equilibrium, therefore, exists when the two relations intersect, at which point the liquidity structures of the two are equal. The essential point is that interest rates need not exist only at that level which equates both markets. Since interest is largely an administered price, rates may be set, for example, below equilibrium, at which point the Deposit Market requires a different anticipated price level (inflation rate) from the Credit Market's value of the marginal product.

Assuming, for any reason, that the value of the marginal product rises to P_2 (a shift of the *CM* relation to the right) so as to encourage the expansion of credit without an increase in the cost of credit, business enterprise will increase its borrowing activity to establish a new *CM* relation, CM_2, to the right of the old CM_1. This would be point B in the diagram. Point B, however, lies in the space to the right of the *DM* relation. Since the *DM* relation represents points of equilibrium in the Deposit Market, it constitutes a boundary dividing the r/P space into two parts. To the right is the space of disequilibrium, with anticipated price levels higher than what would obtain under equilibrium conditions. To the left, an excess of 'forgone' liquidity exists in the banking system at current interest rates, because all interest rates lie above the level of anticipated prices.

It follows that to restore equilibrium in the Deposit Market, since anticipated prices are at their inflation levels to the right of the *DM* relation, interest rates must rise to encourage the necessary increase in forgone liquidity. Unless, therefore, additional liquidity either from the central authority or from foreign sources – Euro-currencies, for instance – is available, pressure will exist to raise interest rates to an equilibrium level consonant with the increase in prices, so as to encourage the additional deposit illiquidity necessary for the Deposit Market. This is precisely, we would argue, the situation in which many countries have found themselves as interest rates have risen to unprecedented levels to establish an equilibrium, given the circumstances of inflation.

The question might be asked, why does the *DM* relation not shift rightward as the *CM* relation shifts? The answer lies in the fact that liquidity preferences, or structures of liquidity, are sticky – they do not change. Higher taxation could shift *DM* relations rightward, but it is hardly conceivable that the public's structure of liquidity as between anticipated prices and interest rates as rewards for saving could change in the short term. Only long-term economic growth could cause such rightward movements in the Deposit Market.

The fact that a certain level of interest rates must exist which will

yield some positive real rates (money rates less the anticipated price level) for market equilibrium to exist, also limits the slope of the *DM* relation to less than 45°. This is not true for Credit Markets. Capital investment does shift with rising values of marginal products of capital *vis-à-vis* interest rates, and new equilibrium schedules of the two can be readily drawn up. Such shifts do occur, particularly when the domestic money supply is expanding.

The analysis to this point is straightforward and, hopefully, does lend precision to an argument which otherwise lacks precision. In terms of domestic money and credit markets, we can say that high levels of liquidity preference on the part of the public would mean *DM* relations well to the left (greater than 45° relative to the horizontal axis); conversely, lower levels of liquidity preference would mean *DM* functions to the right (less than 45°). The Swiss with their high per capita savings rates would represent the latter.

The purpose of the domestic banking system is, of course, to bridge any gap between the *DM* relation and the *CM* relation which always must exist in economic life. Banks do this by granting the liquidity which the *DM* market requires, on the one hand, and making possible the illiquidity which the *CM* market needs on the other. In effect, they, as intermediaries, make an intersection between the *CM* and *DM* relations as near as possible in an imperfect financial world.

THE INSTABILITY INTRODUCED BY INFLATION

The thrust of the argument, expressed in more precise terms, lies in the fact that changes in the values of the marginal products of capital due to inflationary price increases will be introduced into the market, and these will be destabilising. Whereas changes in the marginal product itself are quite 'legitimate' in the sense that productive factors are adjusted in accordance with free market price determination, purely inflationary price changes are not. One can readily imagine a non-inflationary world. The axis, *P*, would only exist in so far as the anticipated values of marginal products adjust in accordance with consumer demands, changes in tastes, etc. Such adjustments, when sufficiently general, would constitute rightward shifts in the *CM* relation which would, in turn, apply pressure to the Deposit Markets.

Under ordinary circumstances, the result would be rising interest rates to bring forth the necessary increased liquidity forgone which would result from equilibrium in the Deposit Market. Now it is quite

possible that individual consumers, recognising that their increased demand for products exists, will elect to save (reduce their deposit liquidity) sufficiently to acquire the wherewithal for the purchase. This would cause a rightward shift in the *DM* relation, and would restore an equilibrium between the two – in ideal circumstances. Contrary to Keynesian principles, the increased saving is not 'wasted', but will be used for future consumption, and since producers will use the increased deposits for investment to provide the necessary future production, equilibrium is maintained.

But this is an ideal world which has not been available to us for many years. The *P* axis now includes inflationary price increases, adding a further dimension and, most of all, making it almost impossible to achieve equilibrium between the *DM* and *CM* relations. Interest rates are administered by governments and are determined by monetary expansion or by tightness, depending upon the decision of the monetary authorities. The result is that a shift in the *DM* relation which is purely the consequence of inflationary price increases may or may not result in higher interest rates. It depends entirely upon the authorities whose decisions are made on the basis of their perception of the economic conditions, degree of unemployment, etc. at the time. In effect, the 'real' economy and the decisions taken by individuals determine the monetary flows in the Deposit Markets, not the monetary principles which should govern the Credit and Deposit Markets.

Perhaps the most surprising feature of the market instability lies in the fact that it requires a rather long period of time for the effects of inflation to become manifest. The economy is surprisingly adjustable to regular and anticipated price increases as 'indexing', both official and unofficial, takes place. Wages and salaries become indexed to the cost of living via COLA clauses in wage contracts or other appropriate adjustment measures. But more important is the fact that foreign exchange rates absorb the inflationary impact for very long periods, effectively disguising the nature of the problem of instability. It is this which is the subject of the next section.

FOREIGN EXCHANGE AND THE CREDIT MARKET

The markets for foreign exchange really consist of banks in virtually instant communication with each other through modern communications technology. The foreign exchange offices of these banks are in a

continuous process of 'making' markets, in the sense that they offer to buy or sell at specific rates, i.e. exchange huge volumes of one currency for another. The price at which the currencies are sold is the exchange rate.

While certain world centres exist where banks are concentrated (London, New York, Zurich, etc.), markets are no longer strictly confined to these centres. The market has become so widespread that activities of buying and selling occur on a 24-hour basis in most banking centres. All major currencies are bought and sold, both spot and forward, so that price quotations are instantly available at any time of the day. In such markets equilibrium between demand and supply is readily achieved; the market is, in fact, perfect. The forces of demand and supply 'rush' instantly to alter prices as foreign exchange dealers seek arbitrage profit within the range of the smallest of price differentials. In Figure 6.5 this relationship between foreign exchange rates, x, and interest rates, r, is shown as an investment relation, I.

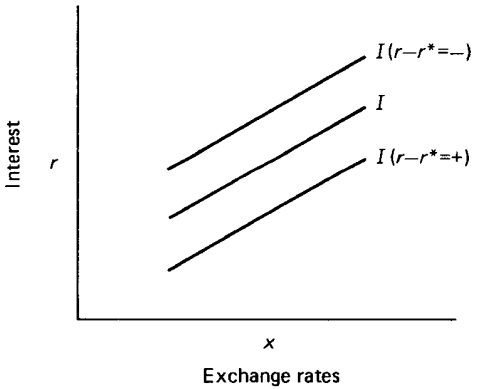


Figure 6.5 Interest and exchange rates

The instant movement of capital between markets means that a continuous relationship between interest, r, and exchange rates, x, will be quickly developed. It exists because short-term capital moves quickly and in large volume to take advantage of interest rate differentials. Such a relationship is a positively sloped function, suggesting that higher interest rates cause capital to rush through foreign exchange markets to raise the value of the 'target currency' in terms of foreign exchange.

In addition, the level of the function will depend upon the relationship between actual interest rates, r, and expected rates, r^*. When expected interest rates exceed actual rates, $r - r^* = -$, capital values in the market will be expected to decline. A movement out of the 'target' currency will likely develop and will shift the I function leftward (or upward). Conversely, when $r - r^* = +$, expected rates are less than actual rates, the I function will shift to the right (or down), indicating that anticipated increases in capital values are likely to occur. This will make the target currency even more attractive, hence will enhance the interest rate impact on exchange rates.

It was not so long ago that there was a consensus that since the dollar was the *numeraire* in foreign exchange markets, devaluation of the dollar was an impossibility. This consensus was wrong. The US dollar does fluctuate in value both practically and theoretically. There is a very sound economic reason for the dollar's movement in the foreign exchange markets, and it is precisely this which lies at the core of the argument which follows.

During the decade of the 1970s, domestic credit expansion in the United States Credit Market had been growing at a rate well above the growth of real goods and services, about 10 per cent per year.[7] Another way of expressing this is that private sector debt to the banks was increasing faster than the capacity to service that debt.

Just to fix the principle firmly, suppose that there had been no price inflation during that period, i.e. price levels of goods and services did not rise. When output fails to keep pace with the growth of bank debt, it follows that the value of debt must fall; thus, price level/debt = declining value per dollar of debt. To express the matter slightly differently, without either price increases or output increases sufficient to keep pace with the rate of growth of debt, the value of debt must fall.

Since the debt of the public constitutes assets to the banking system, falling market values of these assets must mean rising interest rates. This is inevitable because market prices of assets move inversely with the interest rates. It is this which constitutes inflation – an expansion of debt faster than economic growth. By relaxing the assumption of constant prices, we can readily see how rising prices can *prevent* rising interest rates; but rising prices are, strictly speaking, not inflation, they are the symptoms of an overexpansion of bank credit. Ultimately, should the process of debt expansion continue long enough and be great enough, and if prices are no longer able to rise fast enough to keep pace with this debt expansion, interest rates must rise.

It is precisely here that the impact on the exchange rate of the US

dollar is affected. In Figure 6.6 the interest/exchange rate relationship of Figure 6.5 is placed back-to-back with the interest/anticipated-price-level structure of Figure 6.4. Both figures share a common vertical axis. In this figure, interest rates are set by the authority at a level which will encourage Credit Market expansion to CM_2. Recalling that such a low rate is the equivalent of higher anticipated price levels on the horizontal axis, we can readily see the consequences. In a dynamic sense, lower interest cost to the Credit Market will result in increased investment (a shift in the *CM* relation) until the interest cost just equals the next corresponding equivalent of the anticipated increase in the price level. In Figure 6.6, this has occurred at P_2 on CM_2.

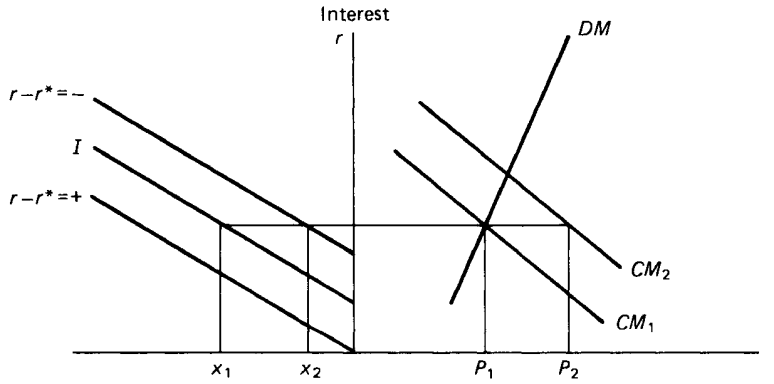


Figure 6.6 Collapse of the US dollar exchange rate

That particular interest rate is also just sufficient to bring in the necessary foreign capital to establish an exchange rate of the US dollar at x_1. The interest rate itself will probably be the treasury bill rate, or its equivalent, which is just high enough to attract foreign capital investment into US government securities, or such other corporate sector securities *including* Euro-dollar securities which will likely offer an interest rate slightly above the domestic US rate.

In a dynamic sense, once more, there is nothing to establish the anticipated price level P_2 as stable. Quite the contrary; the monetary (or bank debt) expansion which was required to set the low interest rate in the first place will make further increases in expected price levels highly feasible. Further shifts in the *CM* function, therefore, may be expected. Any attempt to check monetary growth so as to avoid such shifts must, therefore, result in higher interest rates. This

follows because of the necessity to move closer to the equilibrium level with the Deposit Market. We move up the curve CM_2 as interest costs rise, which are the market equivalent of lower anticipated price levels.

Under ordinary circumstances (exchange rate expectations are neutral), higher interest rates bring in more foreign capital, raising the value of the US dollar in terms of foreign currencies. Market capital values, however, resulting from expectations of higher interest rates, move inversely, so that when anticipated rates exceed actual market rates, a collapse of the ordinary positive relationship between interest and exchange rates occurs. A rightward shift occurs *as well* to I, $(r - r^* = -)$ (see Figure 6.6), and a collapse in the exchange rate from x_1 to x_2 results.

The consequences of a higher anticipated interest rate means that capital values are expected to fall. This is why the shift rightward (or upward) of the foreign investment function takes place. This leads to a collapse in the foreign exchange rate of the US dollar. Higher costs of imports and a greater pressure of demand for exports enhances the underlying inflation rate. This is inevitable.

Conversely, of course, when market expectations are for lower rates of interest, the I function shifts to $(r - r^* = +)$. Thus, any downward movement in the interest rates established by the authorities can result not in a lower exchange rate as might be expected, but in a higher rate as market expectations for capital gains rise. This can occur because *still lower* rates are anticipated. The 'interest rate wars' (referred to in Chapter 7) which occupied the attention of Chalmers during the 1960s are now much more difficult to wage; we can no longer be certain in which direction the missiles of short-term capital will go.[8] Market expectations frustrate the plans of central authorities.

In this case, since market expectations are for still lower rates of interest, this would increase the foreign exchange value of the US dollar because of the unexpected increase in capital values. US Treasury Notes become an ideal investment for the extra US dollars earned by those countries which have a surplus in their balance of trade with the United States. This frustrates the effect of the lower interest rate policy, and, conversely, it enhances the effect of a policy which increases interest rates. Most important, it suppresses the underlying inflation rate.

During most of the period of the 1970s, the United States maintained a low interest rate policy, so that real rates were below those of the other major countries. Only towards the end of the decade did interest rates rise with the curbing of the money supply growth rate so

as to check rising prices. By 1979 the Federal Reserve Discount Rate had risen to 12 per cent, up from 9.50 per cent the year before and from 6 per cent in 1977.[9] At the same time, the International Monetary Fund's 'effective exchange rate', MERM (Multilateral Exchange Rate Model, involving seventeen countries), for the US dollar declined from an index of 100 in 1977 to 93.7 in 1979.[10]

The devaluation of the US dollar during the latter 1970s, we would argue, was entirely the consequence of the increase in interest rates. Because of this increase, market values of capital assets collapsed, and part of this collapse was the fall in the exchange rate. The initial reason for the collapse in capital values and the exchange rate was the structure of interest expectations. At the same time, the rate of price increase in the USA was raised above the underlying inflation rate because of the collapse of the exchange rate.

The collapse of capital market prices follows from the result of an excess of sellers over buyers – a shift in the market supply curve relative to the demand curve. Further, in the process of selling Eurodollar securities on the market, foreign owners must move out of dollars into another currency. The process of shifting out of Eurodollars in this way brings down the dollar rate *vis-à-vis* another currency – for example, the DM. Note carefully, though, that it was the increased interest rate which was initially responsible for the devaluation of the dollar, a fact which emerges quite clearly both from the circumstances of the time and from the analysis as shown below.

It might be helpful to review once more the Credit Market and Deposit Market relations as set forth in Figure 6.7. We recall that the Deposit Market relation divides the quadrant into two sections. To the left of the *DM* schedule, value of real interest rates are positive ($r - P = +$) and above the minimum level determined by liquidity preference; to the right, real rates are negative. The *DM* relation, it will be recalled, is the locus of points of equilibrium defined as the rate of interest which just compensates for a specific level of anticipated prices. The interest rate, r, and the anticipated price level, P, are the equilibrium rate and anticipated price level which satisfy both the Credit Market and the Deposit Market.

If the government elects to set a rate of interest below the equilibrium level, say r_1, and supplies additional funds to the Credit Market to supplement the Deposit Market, the interest cost of capital is low enough to encourage investment as in Figure 6.1 above. A low interest rate such as this has two results: (i) it increases the amount of investment, and (ii) it alters the structure of investment toward less

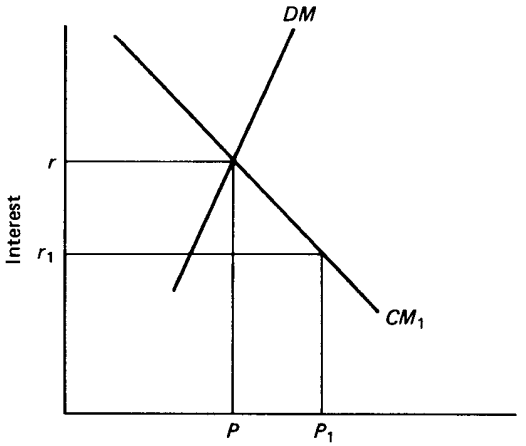


Figure 6.7 Deposit and credit market equilibrium and administered interest rates

labour-intensive techniques of production since capital is, in all likelihood, now less expensive than labour. This lays the groundwork for the unemployment problems which have arisen.

Clearly a difference between the equilibrium level of investment and the equilibrium level of savings in the Deposit Market will result. This difference will be made up from monetary expansion by the government, there being no alternative source of finance. Under the circumstances of low or negative real interest rates, the public will continue to increase consumption almost *ad infinitum* as long as such investment expansion financed by a growth in the money supply continues.

With about a one- to two-year time-lag, rising prices, which will soon become rising *anticipated* prices, P, will appear as the CM relation begins to shift rightward. We approach the situation of the 1960s, during which period economic growth was the primary objective of governments. The ultimate check on the process was two-fold: the realisation on the part of governments that inflation and rising prices could only be halted by restricting the growth of the money supply; and the finitude of the earth's resources.[11]

During the period of inflation when monetary expansion is occurring, those financial institutions such as near banks, etc. which rely mostly on the Deposit Market for their funds, find little or no difficulty in acquiring deposits by the simple expedient of raising their interest

rates just high enough to reduce the negative real rate. This encourages some savings on the part of the public, especially when inflation with its higher anticipated price levels means that *some* protection against higher prices is better than none at all. Those of the public who feel they must save, will use those vehicles which promise the least loss of purchasing power. Such long-term interest rates as mortgage rates, in their turn, will be just sufficiently higher than the long-term savings rates to account for a reasonable spread for saving institutions; in fact, the entire structure of interest rates will be less than what it should be because of the artificially low rates set by the central authority.

A more rapid shift rightward of the *CM* relation, in response to higher anticipated price levels (in other words, greater rates of inflation), does not change the analysis but merely speeds up the process. Consumption will likely keep pace with production since savings rates are always inadequate to finance investment, and the monetary expansion will continue at a greater rate than before. It is when the central authority decides to bring the process to a halt that real problems arise.

Should the authority elect to permit the Deposit Market to establish its full influence on interest rate determination, in the interest of checking inflation, both consumption and investment must collapse as the interest rate appropriate to a much higher anticipated price level at last appears in the markets. In fact, interest rates will rise to approximate the equilibrium Deposit Market rate, thereby encouraging increased savings. Investment must also be reduced, with a shift back of the *CM* relation, until the anticipated value of the marginal product of investment (i.e. the inflation rate) is sharply cut back to an equilibrium equivalent of the new and higher interest rate. (See the analysis accompanying Figure 6.1 above.)

A rather interesting development regarding the US dollar has occurred in more recent times. There has been a substantial drop in the trade-weighted value of the dollar since February 1985 – about 30 per cent up to February 1986, and a continued decline thereafter. This is clearly the result of 'sliding down' the *I* function (see Figure 6.6 above) since US interest rates have been amongst the lowest in the western world. Only Switzerland, Germany, and Holland can show lower nominal rates.[12] Furthermore, since the US yield curve (short rates over two percentage points below long rates) suggests that such rates are indeed low relative to market expectations, the relation $r - r^* = -$ is more likely to apply.

In addition to these theoretical suggestions, there is considerable empirical evidence to suggest that the decline of the dollar is a 'slide' as opposed to a shift in the *I* function. There has been no substantial unloading of treasury bills and government securities by foreigners. The lower interest rates (higher market values of securities) have not precipitated the massive sales which would cause an abrupt shift in the *I* function to the right. Indeed, the so-called 'Plaza Accord' of 22 September 1985, in which the finance ministers of the Group of Five agreed to establish a lower US dollar, seems to have been the catalyst which encouraged investors to believe that r^* was to be below r for a substantial period of time. A gently falling interest rate, then, could discourage foreign investment in the United States sufficiently to lower the exchange rate, until, that is, the rate had fallen to such a level that market expectations were that it had reached its low point. It is then that the shift inward in the *I* function occurs.

It is, we suggest, in exchange rate determination that the greatest instability arises in a world of inflation. It is as if the weight of adjustment has been thrown onto the rate almost entirely. We can see this most clearly from the US experience in recent years. We know that the rising value of the US dollar has been largely the result of rising interest rates which followed from the higher government deficits and which were necessary to attract the foreign capital in the first place, and a 'tight' monetary policy which increased interest rates.

An overvalued US dollar encouraged the enormous deficit in the balance of payments, which continues even yet, though the value of the dollar has since declined. Thus 'inflation' has been manifest largely in the increased flow of imports. Therein lies the instability of the exchange rate system due to underlying inflation. Ultimately, the prospect of unemployment will likely assert itself again because of the competition of imports with domestic production, so long as the US dollar continues overvalued. This gives rise to demands for tariff protection. The remedy for the dilemma, therefore, does not correct the original cause, which was a combination of an excessive government deficit and a policy designed to reduce interest rates to encourge the Credit Market to shift to the right.[13]

A THEORY OF BANKING AND FINANCE – A NEGLECTED BRANCH OF ECONOMIC SCIENCE

It is interesting and instructive to look back, with the benefit of

hindsight, and to realise the extent to which banking and monetary theory has been neglected in recent times. Early nineteenth-century economists, with the possible exception of Ricardo, focused their attention on the real economy, however defined, considering money to be a 'veil' obscuring the real forces which drive the economy. Later, Walras considered money to be an additional commodity necessary to achieve equilibrium in his market system. But with the possible exception of Sir Ralph Hawtry, monetary theory remained pretty much as Fisher and Pigou had left it, a Quantity Theory of Money – no more.

The concentration on the 'real' forces of the economy meant that the operation of banks and money was left to the ebb and flow of gold, in the case of the gold standard, and to the bankers themselves who had to contend with it. The strict Ricardian rules involved in the British Bank Act of 1844 meant that the monetary system could be self-regulating, principally because exchange rates were predetermined by the price of gold, and export industries were forced to adjust their costs of production to these rates.

Under the new rules of the post-Keynesian era, the supply of money, interest rates, and exchange rates have been seen as tools to lever the 'real' economic system into its full employment, optimum path of growth, and this has meant the highest growth rate possible. The business of banking has been carried out within the constraints set for the industry by politicians, and these have often been quite irrational, and certainly self-serving, in the sense that bankers prefer the peaceful coexistence which accompanies conformity to the uncertainties of asserting the realities of banking principles. This does not apply to Swiss bankers, however, who manage to carry their arguments despite opposition from their politicians.

The era of central bank control of the money supply and the world's banking systems has not brought stability to the world's monetary systems. At best we stumble from emergency to emergency, with central bankers lending their prestige and facilities to tide us over the crises as they arise. It is only Professor Friedman's insistence on the curtailing of excessive monetary growth that has brought the modern recognition that money is not something which should be tampered with in the interest of some preferable objective in the real economy. 'Money matters, but it is not all that matters', is the current aphorism on the subject.

While this book makes no claim to fill in gaps in economic theory – its objective being much more modest – we can argue that the popular

focus on the Credit Market to the exclusion of the Deposit Market has proved to be an unsuccessful policy. It has meant that an 'investment-at-all-costs' philosophy, which lowers interest rates to stimulate investment and, therefore, increases employment and a higher living standard in the short term, has not provided the wherewithal (in real terms) by which the finance of investment might be met. By maintaining artificially low interest rates, the structure of liquidity has been encouraged to move towards consumption rather than saving. In effect we are consuming what we ourselves have not saved for, and to which, therefore, we are not entitled.[14] By not providing the saving for Credit Market schedules, we are always prepared to over–consume; i.e. monetary expansion provides the means for additional consumption.

But there is more than this at stake. As suggested above, interest rates designed to shift the *CM* relation rightward encourage methods of production which are inherently labour-saving. This is particularly true when labour presses for higher wages. Inevitably, business enterprise will utilise the method of production which offers the least cost, and this means that, eventually, unemployment must result as the producing techniques can no longer provide the jobs necessary to employ an ever-increasing labour force.

But these are 'longer-term' considerations, longer than the purely short-term matter of encouraging export demand by establishing exchange rates lower than free market conditions would determine. In this way, export industries need not be world-competitive in terms of efficiency. Similarly, interest rates that are set by central banks lower than rates that would satisfy Deposit Market schedules, are really short-term palliatives designed to encourage employment in investment goods industries. The substitution of capital for labour to result in unemployment in the long run is a concern not for the immediate foreseeable future when politicians must be re-elected, but for another generation.

But still, the purpose of this chapter is not to polemicise; it is to establish that the Deposit Market exists and cannot be ignored forever. In the final analysis, the purpose of the Deposit Market is to allocate the funds of savers to their most efficient use. Inflation seriously impairs the operation of this market. Similarly, government interference in interest rate determination makes it impossible for the Deposit Market to perform its most basic function – allocating the resources of society to direct consumption or to investment.

In general, we can argue with some force that those countries which

ignore Deposit Markets, the 'inflating countries', are precisely those whose central banks rely heavily on government securities for financing monetary expansion. In doing so, the Credit Market is encouraged through lower interest rates. This effectively excludes the general public from the process of saving since it is neither capable of supplying savings at such low interest rates nor is it expected to do so. To the contrary, the general public is expected to consume, not save, according to the tenets of Keynesian Macro-economics. The funding for the necessary investment is provided by 'false savings' in the form of increased money supply at lower interest rates.

Those countries, such as Switzerland, which cannot use government securities for monetary expansion, are forced to rely on both gold and foreign exchange for their monetary base. In this case, the alternative is clear: savings must arise from a developed Deposit Market, either – or both – from domestic or from foreign sources. Such countries do not suffer from the 'inflation disease' nor do they contribute to world inflation.

The implication for our future is just as clear as the conclusions which must be inescapable.

7 Euro-Currencies and International Banking

Euro-currencies, which had their origins during the 1950s, began to assume grandiose proportions by the mid-1970s. By the latter years of the 1960s numbers in the order of 300–500 billions of US dollars were the estimates of totals by various prestigious agencies, including the Morgan Guaranty Trust and the Bank for International Settlements. By that time the exchange rates of the world's major currencies had been brought down, to force an end to the Bretton Woods system of fixed exchange rates.

It is not difficult to appreciate how Euro-currencies can be capable of destroying the fixed-rates system. With such considerable sums available for borrowing, it is only a matter of wagering that any central bank would be unable to peg its currency at the specified Bretton Woods rate within a specified time limit, the wagers being funded by Euro-currency borrowing.[1] Certainly, neither the world of finance nor the world of trade could afford to ignore the reality of Euro-currencies when they were instrumental in the revolutionary change of an exchange system which had been in existence for some two decades.

Euro-currencies, to review briefly the discussion of Chapter 3, have their origins in the domestic deposit accounts of the currency in question. When the owner happens to be a resident outside the country of the currency (a foreigner), he has the opportunity of using his deposit *in the same currency* to make payments, to redeposit in a foreign bank, etc. The currency has effectively 'gone abroad', and the prefix 'Euro' is attached.

The mechanism by which this takes place is the interbank deposit. Thus, when the US dollar goes abroad in this way, the ownership of the original deposit liability transfers from the original owner to a foreign (Euro) bank owner, hence becoming an interbank deposit. This foreign bank, then, in its turn owes the (now) Euro-dollar deposit to the foreigner at the same time that the US owes the interbank deposit to the Euro-bank. The method of the interbank deposit is simplicity itself, yet the complexities of the Euro-currency markets can be, and are, infinite.

It is not necessary that foreigners acquire the ownership of domestic deposits at all. Individuals may, should they wish to 'invest' in Euro-

markets, transfer their own domestic deposits directly to the ownership of Euro-banks. The Euro-banks then owe the sum of deposits to the domestic depositor who may, in turn, use his deposit for the purchase of Euro-bonds or whatever asset is available on the market.

The entire process of interbank deposits can be quite lengthy; indeed, the final owner, a borrower, of the Euro-deposit may be entirely remote from the original owner. This borrower may be a firm in a foreign country that wishes a certain amount of liquid funds in its own currency. It borrows Euro-currency, swaps into the 'own' currency, then repays the loan when the swap contract expires. Of course the final borrower pays for the entire operation from the beginning, through interbank deposits to the end loan with the interest charged.

Transactions of this kind, in the Euro-currency, appear quite harmless until they grow to such proportions that they equal in value the Gross National Products of the major industrial powers combined. When such transactions are seen in their perspective, it is obvious that a flood of capital could sweep into a country to purchase whatever speculative investment may be available. This could be a country's currency which is expected to rise in value in the foreign exchange market, or short-term securities such as treasury bills which may offer high rates of interest in the short term.

The volume of such funds is staggering. One estimate is that an amount equal to US$ 20 000 billion annually moves through the spot foreign exchange markets of the world. This is about equal to fifteen times the annual value of foreign trade.[2] Neither the Bretton Woods system nor any other system of stable rates of exchange could possibly survive in a world of short-term capital flows of such magnitude should the consensus of the world market be against the existing rates structure.

There *are* advantages to stable exchange rates from the standpoint of international trade. These are obvious; even the forward exchange markets cannot offer the stability which is often required for long-term trading contracts.

EXCHANGE RATES, FLOATING

'Floating rates', precisely the opposite of the Bretton Woods fixed rate system, can be successful in eliminating balance of trade deficits and surpluses, assuming that demand elasticities for exports and imports

are precisely correct; however, a floating rate system itself fails to accomplish its purpose, as far as actual trade is concerned, when massive distortions in foreign exchange markets occur as the result of inflows and outflows of capital. These capital flows can result from interest rate differentials and expectations of devaluation (or revaluation) for whatever reason. Balance of trade deficits, or surpluses, do influence exchange rates to the extent that they generate such expectational phenomena, but invariably the massive capital movements which give rise to exchange rate overshoots (or undershoots) can be very disturbing to the 'stability', so-called, of international trade which a floating exchange rate system is supposed to make possible.

In a world of 'approximate perfection', Purchasing Power Parity will ensure that exchange rates, when free to adjust themselves in accordance with supply and demand, arrive at their own stability. But when tidal waves of Euro-currencies are free to wash in their billions from country to country seeking the highest interest return, the situation can become even worse if interest rates are subject to government influence or control. When such rates become instruments of policy for the purpose of maintaining a certain exchange rate (thereby departing from a floating rate system which is supposed to be responsive to the needs of trade), *further* destabilisation can result by virtue of the fact that interest retaliation between countries can take place. This is the point made by E. B. Chalmers – interest rates are the pushbuttons and Euro-currencies the 'missiles' in a war of exchange rates.[3]

Chalmers identifies two of these 'wars', the first during the period 1960–66, and the second, 1967–70. The first war was waged largely between Germany and Great Britain as each sought to support its respective exchange rate. The interesting feature here was the fact that the 'war' was fought against a background of a *real* war in Vietnam which was occupying the attention of the United States, in the first place, and a general worldwide drive for higher wages and living standards in the second. The result was a capital shortage, high interest rates, and inflation. Rising prices and wages were symptomatic of shortages of resources, and high interest rates were the consequence of capital shortages. The interest rate war, therefore, was made all the more futile as the two nations attempted to use capital which was in short supply in an attempt to do no more than support their respective exchange rates.

The second of Chalmers' 'wars' occurred during the period 1967–70

and was joined by the United States. With the conclusion of the war in Vietnam and the freeing of the price of gold, the USA was attempting to use the interest rate mechanism to support the value of the US dollar. The climactic year of this second war was 1969 when the Euro-currency interest rate reached its highest level to that date – 13 per cent. 'Peace and disarmament' in this second war occurred in 1970 when the United States relaxed, at last, its monetary policy so as to permit its interest rates to fall, despite the fact that neither Germany nor Great Britain was yet ready to do the same. Euro-dollars began to flow back to Europe to seek a higher rate of return – slightly above the US rate.

During the years when Euro-currencies were hurtling across the Atlantic like missiles, it is hardly surprising that politicians and economists alike viewed with alarm both the growth of the Euro-currencies in absolute terms and their speed of movement between countries. There occurred, at the same time, a somewhat futile debate amongst academics regarding the issue of a Euro-currency multiplier; i.e. was it possible that Euro-banks, dealing in currencies outside their country of origin, could actually be creating Euro-deposits of their own? The debate revolved around one idea. Was there, somehow, a 'reserve' against which Euro-currency deposits could be created in a manner analogous to the way the economists believe domestic money is created? Various concepts of Euro-currency 'reserves' were developed, probably the most rational being that of B. Lee, who argued that it was the cumulative US balance of payments deficit which was the 'reserve base' for Euro-dollars.[4]

Jacques Rueff seemed to strike closest to the core of the argument.[5] Suppose, he argued, that a Euro-bank, just one Euro-bank in the chain of lending, considered its deposit in a US bank (the original deposit) a means by which two Euro-currency deposits of equal value might be loaned. This would arise because, like the original goldsmith money-lenders of the past, Euro-currency claims need not surface simultaneously; indeed it would be an unusual circumstance if they did. In this case a deposit multiplier could exist because a new Euro-dollar deposit claim against the Euro-bank had been created on the base of a single original deposit in a US bank. He argued that such deposit expansion is really responsible for world inflation: 'in present circumstances they [new deposits] are the principal culprits for the inflationary tide that is flooding through the western world and is spreading disorder, chaos, and instability to the great detriment of everyone'. The 'inflationary tide' to which Rueff referred is, quite simply, an

excess of money demand for real production beyond the capacity of any nation to deliver.

These were strong words. Jacques Ribault, in a later issue of the same journal, took sharp exception to his countryman's argument. The money supply, he argued, would only increase if Euro-banks could issue claims against themselves so that these claims would be cleared through cheque-clearing arrangements. To Ribault, Euro-banks are merely financial intermediaries which increase the velocity of circulation of money which is on deposit in the United States. Increasing velocity does not mean expansion of the money supply.

The logical error committed here, and by many others who participated in the Euro-currency debate, lay in attributing to Euro-currency deposits the responsibility for rising rates of inflation. Quite the contrary: the real cause of the world's inflation was an excessive demand which manifested itself in the form of higher growth rates in the Gross World Product than the world's productive capacity could sustain. What is really significant as far as Euro-currencies are concerned, and what is likely to be the reason that the world's monetary system has not yet collapsed in a tide of Euro-currency inflation, is that borrowing from Euro-currency banks occurs when business enterprise sees an opportunity to expand its production, sales, etc., due to an already excessive final demand. Rather than Euro-currencies being a cause, they are the result. Euro-lending is investment lending, not consumer lending, and, as long as Euro-banks make this distinction, it is unlikely that Euro-currencies *per se* can or ever will be a cause of inflation.

It *is* possible, however, that Euro-loans could substitute for domestic bank loans, in which case domestic banks might switch to more lucrative consumer lending, thereby resulting in a net increase in demand. This much must be conceded to those who might argue that Euro-currencies are inflationary. To this point, however, there is no evidence of such being the case, nor was there during the great inflation of the 1970s.

Under the circumstances of hugely rising quantities of Euro-currency deposits over the past decade, had forecasts of doom and gloom been even approximately correct, there would assuredly have been considerably more inflation than there actually was. At the least, it would have been next to impossible to bring down inflation rates in individual countries as has been done in Germany, Switzerland, the USA, UK, etc. in the recent past.

What is likely to be more correct is that Euro-currencies exist in

response to a higher marginal product of investment. Were such not the case, there would be no growth in the amount of Euro-currencies in the first place; furthermore, when the marginal product of investment declines, the Euro-currencies themselves cease to grow in quantity since Euro-banks no longer have the opportunity for lending. In other words, inflation exists first, *then* Euro-currencies increase to implement the accompanying higher demand, but they are certainly not the cause of inflation.

What we cannot argue, however, is that Euro-currencies *alone* do not destabilise exchange rates. Whenever a currency appears to be on 'shaky ground' with an impending devaluation for any reason and monetary policies are implemented so as to increase interest rates to protect it, massive inflows of Euro-currencies may cause an overshoot in the markets and the currency may continue to rise in value long after the original interest rate impact has ceased. The US dollar is, of course, a case in point, with both appreciation and depreciation feeding upon itself even years after the original increase in the exchange rate which the United States engineered with higher interest rates has ceased to have significance.

THE MARKET FOR EURO-CURRENCY CREDIT

There is no fundamental difference between the demand for Euro-currency credit and the demand for domestic credit. To all intents and purposes they are the same. In a world banking system which spans national boundaries, loans from branches of foreign banks or from Euro-banks are as readily negotiated as domestic loans. Such loans may be swapped into the domestic currency with a forward purchase of the Euro-currency, in which case the domestic demand for credit is satisfied. In Figure 7.1, the Euro-currency credit market function is depicted exactly the same as the domestic credit market function as indicated in the preceding Chapter 6, Figure 6.2.

An increase in the CM function from CM_1 to CM_2 in response to higher anticipated prices, P, can result in Euro-bank financing of the Credit Market as a result of an increase in the interest rate to point C, either via the A, B, C route or directly to point C via the arc. The only requirement is that interest rates in the country that receives the Euro-loans must rise sufficiently to attract these funds. The difference between the country itself providing its own funds by way of the central bank money 'creation', and Euro-borrowing, is that 'own' funds can be

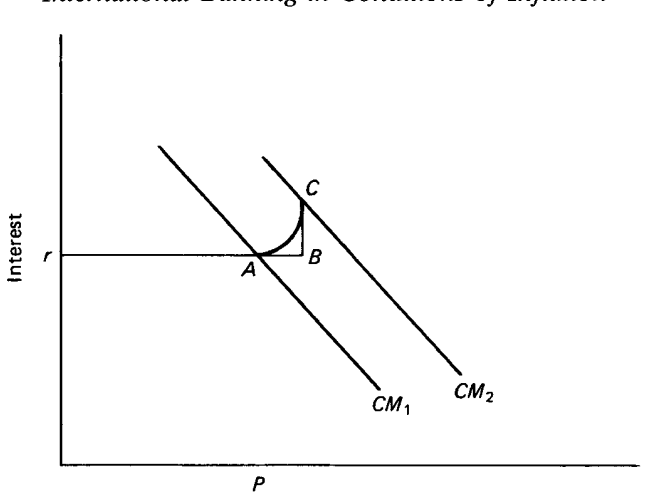


Figure 7.1 The Euro-currency credit market function

essentially free of cost whereas Euro-loans involve higher interest payments. Borrowing from a country's central bank which expands the money supply is a cost-free source of funds available to a government.

To refer once more to the argument of Rueff, noted above, it is not rational to argue that Euro-currencies cause the initial shift of the point of equilibrium to point B, or diagonally to point C. Such an argument implies that the existence of Euro-currencies is really a simplified version of the Quantity Theory of Money. To the contrary, Euro-currencies enter into the analysis in response to higher interest rates as entrepreneurs seek to expand their investment in response to higher prices for both the products of capital and for capital inputs. Higher prices of oil during the 1970s were not the result of the existence of Euro-currencies, but Euro-currencies helped to finance the purchases of high-cost oil.

THE MARKET FOR EURO-MONEY

All banks, and Euro-banks are no exception, must acquire funds (or liquidity) from the public. The only unique feature of Euro-banks is the fact that their liquidity must flow via the interbank deposit mechanism from the originating bank in one country to the ultimate lending bank (or banks) in some other country. Since (i) by far the largest part of these funds derive from institutional sources, (ii) the

liquidity requirements of these funds are known well in advance, and (iii) the world's volume of Euro-currencies approaches the 'infinite' (relative to a single country's demand), the necessity to overcome liquidity preference within the country of origin of that currency by means of higher interest rates in the borrowing country, is not so evident. It really becomes a matter of competition with other countries for the funds which can 'flood' the country with the higher interest rate, consonant, of course, with reasonable security.

This is why the development of the Euro-currency has, to a considerable degree, alleviated the problem of intermediation between the *DM* and *CM* relations of individual countries. When domestic deposits – for convenience we might use US dollars as an example – become the property of a foreign bank, they will be available for lending. Through the interbank deposit mechanism, they can be loaned to a Euro-bank in London which would, in turn, make available the same deposit to another bank elsewhere, etc. In the process, a measure of liquidity is being lost at every stage until the *CM* relation in the recipient country is satisfied. The *DM* relation in the US bank, however, is quite remote not only in geographic distance but also in liquidity structure. Furthermore, a failure on the part of the ultimate borrower would be 'cushioned' by each bank in the chain of banks as each bank provides individually for loans which are 'non-performing'. In this way the Euro-currency system helps to insulate between liquidities which are otherwise incompatible.[6]

To consider the situation from the other direction, momentarily, we can imagine a business concern in a country outside the United States that recognises a profitable business venture, i.e. the *CM* relation has shifted rightward sufficiently to warrant the credit. A Euro-bank in London is approached which happens to have sufficient US dollar deposits in a US bank for lending. After the loan is made, the US 'money supply' (however calculated) is unaffected, but not the liquidity. The US bank has lost some degree of liquidity (however miniscule), and should it be necessary to reclaim it, it would request from the Euro-bank in London the repayment of its funds.

The problem of loss of liquidity in this way is very small in contrast to liquidity lost when commercial banks make loans directly to final borrowers. There is strength in numbers and when single banks attempt to make such loans without the intervening banks, the problem can be enormous. At the risk of belabouring the subject, let us consider once more the process of liquidity-bridging, as in Figure 7.2, but with the redefinition of Euro-currency conditions rather than domestic credit.

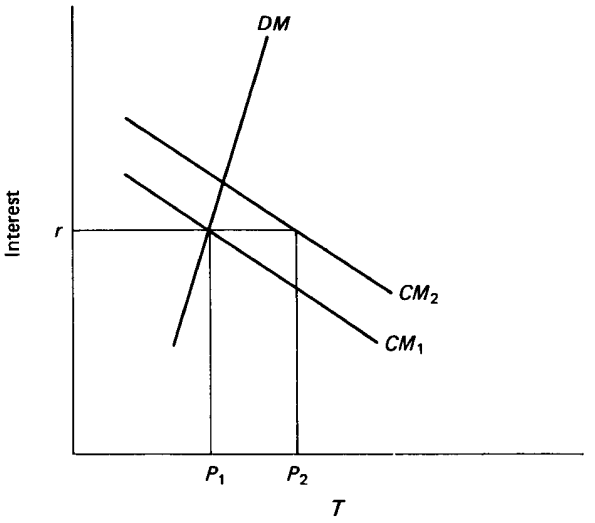


Figure 7.2 Euro-currency borrowing

In a specific, 'smallish' country, investment opportunities present themselves in the form of increased values of the marginal product, P_1 to P_2, and with a shift of CM_1 to CM_2 in Figure 7.2. With interest rates for borrowing at r in the Euro-market and in the domestic market, borrowers in the specified country will find it to their advantage to tap available credits in that market; furthermore, since the country is small relative to the vast Euro-currency market, the cost of borrowing, r, will be practically unaffected.

Given the relatively steep slope of the DM function, without the Euro-currency market, the borrowing country would suffer enormously high domestic interest rates were it to finance P_2 from its own resources. We can see this directly from its Deposit Market function, but since the CM_2 function cannot sustain such high rates, there would likely be no investment at all without Euro-currencies. Despite the higher value of the marginal product of capital, the country would be forced to forgo investment.

Euro-currency interest rates, r, though likely to be higher than the domestic rates of the country which provides the Euro-currencies, are likely to be very much less than the domestic rates of the borrowing country were it to provide its own capital in isolation. We can see this from the Euro-dollar rate which, in most instances, is higher than the

domestic US dollar rate. On the other hand, should Euro-currency borrowing not be available, the specific country could expand its money supply to shift its *DM* function rightward and maintain a low interest rate, r; in other words, it could embark upon a disastrous course of inflation.

The Euro-lending banking system is in the interesting position of not having the amount of its domestic deposits, which constitute the money supply of the country concerned, affected by Euro-currency lending. We would argue, however, that the liquidity (quite a different matter from deposits) of the lending country is affected, and the effect can become a rather serious matter as far as the banking system is concerned. As banks lend to Euro-currency markets, they tend to reduce their liquidity – transfer their liquidity from the lending country to a borrowing country. Their sources of funds tend to be short-term whereas their assets, their Euro-currency loans, are long-term; this is why a net transfer of liquidity takes place.

It is quite conceivable that no loss of liquidity need take place as a result of Euro-currency lending. Should Euro-assets be purely short-term and Euro-lending be correspondingly short-term, there is no difficulty whatsoever; in fact, both foreign lending via Euro-markets and domestic lending may take place undisturbed because no domestic deposit loss occurs with Euro-lending. It is only when liquidity positions between borrower and the banks become excessively wide that liquidity loss becomes significant.

In Figure 7.3 the position of the Euro-lending country is set forth. In the lending country, interest rates of r_1 are set by the monetary authorities with the objective of encouraging investment on the CM_1 relation. Given the value of the marginal products of capital in other countries which might use the Euro-currency market, the relation CM_2 would approximate the 'correct' position of the *CM* relation because it intersects the *DM* function at r_2. This follows because the Deposit Market is more nearly in equilibrium with the Credit Market at the level of interest rates, r_2.

Since CM_2 is the demand for Euro-deposits, a shortage of deposits in that market will exist at the same time that surplus deposits are being created to finance the domestic Credit Market CM_1. The result is that a supply of *liquidity* for Euro-lending is made available at any interest rate above r_1 (the triangle A, B, C) because of the difference between the two interest rates, one which can be earned in Euro-currency markets and the other, the lower administered rate, in the domestic market. The banking system in the lending country has effectively

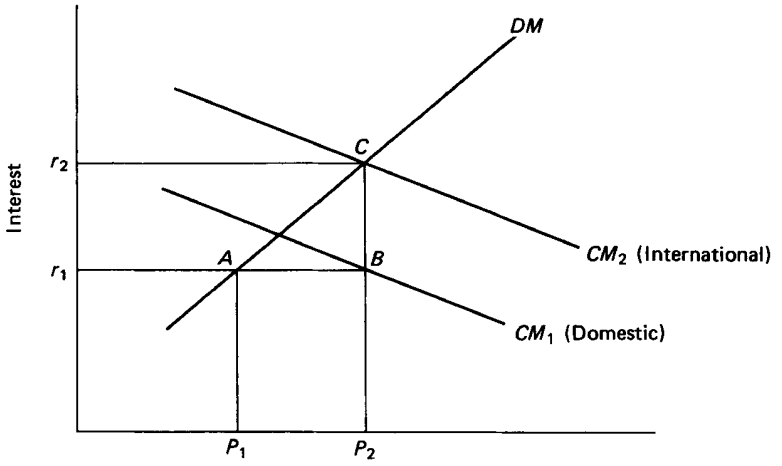


Figure 7.3 Euro-lending

adjusted to a dual Deposit Market situation, one domestic and the other foreign. Since it has been presented with the constraint on its domestic activity in the form of low interest rates set by the central authorities, it has developed a mechanism whereby foreign lending via Euro-banks (and latterly direct foreign lending) can take place at interest rate levels more appropriate to the Credit Market in the borrowing country. Equilibrium between the two markets, Euro and domestic, will be established by means of two forces: (i) an interest rate between r_1 and r_2 will be established which implies that a domestic interest rate must conform in the end to world interest rates, and (ii) the liquidity 'stretch' will act as an ultimate constraint on the Euro-lending by banks. Failure to recognise the constraints will mean excessive drains of liquidity from abroad.

The general public in the Euro-lending country is likely to be unaware of this liquidity transfer because, as noted above, the total amount of deposits in the country will not be decreased by Euro-currency lending. The banking system, however, is very much aware of it and will find its liquidity position becoming more and more precarious as it approaches the inevitable liquidity constraint. It will likely seek additional liquid funds from its own central bank so as to honour its obligations because, failing this, domestic interest rates will certainly rise due to the fact that the public will have to be persuaded to further forgo its own liquidity.

INFLATION, A LIQUIDITY PROBLEM

The process of inflation in the Euro-lending countries, notably the United States and Great Britain, begins with just this increase in domestic liquidity by way of an increased money supply to satisfy liquidity requirements. Were it possible to increase bank liquidity *without* monetary expansion there would be no inflationary consequences, but that is impossible. Liquid money (cash, demand deposits, etc.) which results from an increase in liquidity (which constitutes M_1), must ultimately find its way into the hands of the public. Indeed, it was the public which demanded its liquidity from the banking system in the first place; this demand, in turn, caused a liquidity crisis in the banks, which were already strained with Euro-currency lending, and required an initial monetary expansion to satisfy it. The banking system cannot honour its domestic liquidity obligations when they are tied up in Euro-loans, both as direct foreign loans and via the Euro-banks.

We can visualise the situation in lending countries as Deposit Market relations which become inelastic as liquidity shortages become severe. Banks must offer various types of accounts which pay higher interest and offer liquidity at the same time. But this is not enough, because the central authority must intervene, ostensibly to 'stabilise interest rates' but, in reality, to cause a shift in the Deposit Market relations rightward as the public receives its additional liquid funds.

The rightward shifts in Deposit Market relations (recall that the horizontal axis is the anticipated price) need not occur at the same time that the supply of liquid funds increases. This is especially true if the price increases are unforeseen. Liquid funds may be retained in some form *awaiting* the price increase, i.e. ready to finance higher prices when the Credit Market sees the opportunity to increase prices.[7]

When price increases are foreseen, the *DM* relation is inelastic, and it becomes difficult for banks to reduce the liquidity of their deposits, for the reason that the general public is prepared to use their funds for additional spending. Liquidity preference is high. Any shift, therefore, in the *CM* relation rightward must mean a corresponding shift in the *DM* relation. It is these shifts in the *DM* relation which characterise expected price increases and which also mean that inflation has become well developed. To bring it to a halt means that interest rates must rise to great heights because of the inevitable inelasticity of the *DM* relation.

To summarise the argument thus far, there is a liquidity structure appropriate for borrowing countries that wish to borrow from Euro-

currency markets or directly from banks in other countries. There is also a liquidity structure appropriate for the lending countries. This 'liquidity structure' is the result of the existence of *two* markets, the Deposit Market and the Credit Market, which exist in both countries, and of the fact that interest rates bear little relation to the *equation* of the two markets in either country.

When a less developed country borrows from Euro-currency markets, it is recognising the inadequacy of the liquidity structure of its Deposit Market to sustain the necessary credit that it requires. In effect, it is not possible for the public in the country to become sufficiently illiquid so as to supply the necessary liquidity to the Credit Market. (In Keynesian terminology this might be considered as a lack of 'saving'.) The less developed country, having acquired the liquidity for its Credit Market from the Euro-currency market, is now in a position to use it as it sees fit – payments for oil imports, economic development, etc.

The banking system (generally of the developed country) which supplies the liquidity from its own Deposit Market is in a position to lend it just as long as the liquidity is in surplus. In the event that it exceeds that surplus, a shortage can develop which must be satisfied either by the borrowing country's repayment or the central authority's expansion of liquidity. In the United States, the massive government deficits have been instrumental in providing this additional liquidity for many years. But by expanding liquidity the banking system must also increase the money supply, M_1, the two being interrelated.

We thus reach the same conclusion as those who foresaw inflation as the consequence of enormous Euro-currency financing, but by a very different route. Instead of an 'International Quantity Theory of Money' type inflation, we have a liquidity shortage developing within the lending countries. It is the process of overcoming this liquidity shortage which results in inflation within the lending countries.

Note that this is a very different rationale from the Quantity Theory of Money. Our logic develops as a result of an awareness of the existence of two markets, one for deposits and the other for credit; it is this which is overlooked by the 'International Quantity Theorists'. Indeed, the amount of Euro-currency lending may rise to infinite proportions (trillions of dollars are virtually 'infinite') just so long as the banking systems are capable of bridging the liquidities, for *that is all that matters*.

What many economists (and most people) see is the inflation which occurs at the same time that Euro-currency lending is growing. The

inflation results from governments' assisting their own banking systems through their liquidity problems which arise because the public demands additional liquidity to finance higher prices. This is the natural consequence of their important bridging function. Should the governments fail to render this assistance, their own interest rates would rise to unacceptably high levels. This happens because of the inelasticity of the Deposit Market relation, on the one hand, and the inability of the Deposit Market to shift to the same degree as the Credit Market.

Ultimately, the 'inflating countries' must take action to curb monetary growth. They are forced, in the final analysis, to recognise the impact of rising prices on income distribution, etc. in their own countries and generally to conclude that inflation is unacceptable. Once the decision is made to implement a tight monetary policy, the banks suffer enormously from the lack of further liquidity assistance to which they have grown accustomed. In many cases they are forced to access their *own* liquidity from their own assets, which is often impossible because it is locked up in illiquid assets.

Banking problems are, of course, exacerbated by the inevitable downturn in business activity and employment which accompanies a tight money policy. The banks' domestic assets are reduced in value through forced selling and the bankruptcies which follow, again making access to liquidity more difficult. This is the point at which the domestic assets and foreign assets become part of the same problem.

The problem of the banker may readily be appreciated; indeed, we can easily understand why the Euro-currency markets themselves are continuously innovating and developing new and more versatile instruments to bridge the gaps between Credit Markets and Deposit Markets. David Rockefeller, the practical banker, expressed the problem very neatly. He had reference to the period during the 1970s when oil prices were rising, and Euro-currencies were well on the way towards numbers more suited to the science of astronomy than economics. At that time, banks were experiencing the pressures on their own liquidity structures. The following four points summarise his argument:

1. Banks cannot continue indefinitely to take very short-term money to lend out for long periods of time. We hope this problem will be alleviated to some extent by countries in the Middle East agreeing to place funds at longer maturity.
2. Even more serious than the question of maturity is the likelihood

that banks would eventually reach their limit of credit exposure, especially with regard to countries where it is not clear how their balance of payments problems can be solved.

3. The oil producing countries cannot be expected to build up their bank deposits indefinitely; they too will soon reach prudent limits for individual banks or even for individual nations.
4. This form of recycling is not even a temporary solution for lesser developed countries in weak financial condition, countries like India, Bangladesh, and Sri Lanka, which are not in a position to borrow at all in the commercial markets.[8]

These are excellent points worth careful examination. In the first, he notes the hiatus which generally exists, and banks must bridge, between the Deposit and Credit Markets. Middle Eastern countries, the oil producers, were preferring short-term maturity for their deposits, yet the loans, on the assets side, were for a much longer term. This was the period, incidentally, when banks were increasing their loan exposure; after all, when deposits come in, they *must* be loaned, otherwise the banks are involved in losses. The error, technically, which the banks made, was permitting the deposits to appear on their balance sheets under terms which were not sufficiently advantageous to the banks in the first place. The only hope, therefore, was to encourage depositors to accept longer-term maturity, in which case the structure of the Deposit Market would approach more closely that of the Credit Market. This eases the task of the banks by 'shortening' the bridging function.

The second point addresses the problem of asset liquidity well before it appeared. In retrospect, we can look back in near horror at the shortsightedness of bankers who 'pushed' their loans onto Latin American countries in full knowledge that such loans were in US dollars (not cruzeiros), hence required repayment in US dollars. Bankers, however, are not seers and are subject to the errors of the day – eternally rising prices for oil (hence Mexico and Venezuela are good risks), and the belief in economic growth which would also be perpetual, like the increase in oil prices. Indeed, we can only identify a single group of bankers in all our research who had the bankers' traditional mixture of business caution and conservatism to run against the tide of opinion – the Swiss.

The third point concerns the situation in which the depositors find themselves. Without deposit insurance (which can protect only small depositors) there is a limit to the bank's ability to intermediate

between single, or a few, depositors and a Credit Market which is illiquid. It is an age-old problem in a modern format – too few depositors to whom the banks are excessively obligated. The risk becomes double; both the bank and the depositors are at risk. The bank is certain to suffer if the depositor removes his deposit from a single bank or even a single banking system, and the depositor jeopardises his entire deposit because the bank or banking system cannot acquire sufficient liquidity to honour it.

The fourth point recognises that very many of the world's poorer countries are simply not eligible for commercial bank lending, either direct lending or through the Euro-currency market. Their credit needs must be met otherwise, through international lending agencies – the World Bank, Asian Development Bank, etc. – which are equipped to act as intermediaries between these countries and the commercial banking system itself. Thus the purchase of World Bank bonds by investing banks, for instance, means that the funds find their way to these countries with the added security of the intermediary. Banks themselves can only recycle funds to those who can repay, a simple truth which ought to be obvious.

THE CONFLICT

Rockefeller's four points seem almost self-evident. Similarly, the fact that the Deposit Market and the Credit Market must be in equilibrium would also seem to be self-evident. Indeed, failure to equate the two markets is certainly a major cause of our recent massive worldwide inflation. Where, then, does the root of the problem lie?

The root actually is very much deeper than Euro-currency banking, which is, after all, relatively recent. The Deposit Market, as described above, has been virtually ignored by economic theoreticians since the acceptance of Keynes's *General Theory* and the philosophy entailed in the welfare state. Banking has been a second cousin, a poor one at that, to the more lofty principles of full employment.

Keynes, in the *General Theory*, had made very clear the determinants of interest rates. It was a combination of liquidity preference on the part of the public, and the quantity of money.[9] Since there was very little, if anything, that one could do about liquidity preference, it followed that adjusting the quantity of money which is subject to the control of the state would effectively influence the rate of interest. Furthermore, influencing the rate of interest would encourage or

discourage investment according to an investment function determined by the marginal efficiency of capital.

General acceptance of Keynesian doctrine and Macroeconomic principles led directly to a centralised control of interest rates. Interest became an independent variable in a system of equations which determine national income and employment.[10] Interest rate 'wars' are now possible should we wish to influence exchange rates, and, certainly, interest rate adjustment is both possible and correct to encourage full employment.

We note carefully that this focuses entirely upon the Credit Market and ignores the Deposit Market. Raising interest rates discourages investment, and conversely, lowering interest rates encourages it. We can influence these rates via the money supply, precisely as Keynes said, even though the mechanism might be somewhat different than in Keynes's day.

We note also that bankers, even though they must have been aware of the Deposit Market and its implications, and even though they had been paying interest and accepting savings deposits in various forms for all these fifty years since the advent of the *General Theory*, were content never to raise their voices in protest against monetary policies which could only result in inflation in the long run. They continued their intermediation function without protest under the conditions set forth by the central authority.[11]

There is, undoubtedly, a reason for this. If the central authority provides adequate funding for the Credit Market, or at least sees to it that adequate liquidity is present, there is little or no pressure on banks to establish their own Deposit Market. We are safely in a Keynesian world, with interest rates administered by government policies and banking systems operating precisely as intended by the politicians who happen to be in power; safely, that is, until the world of Eurocurrencies breaks down national boundaries, making national economic policies in isolation an impossibility.

But the Keynesian world is not really 'safe'. Interest rates do more than determine investment via a Credit Market function. The fact that Keynes himself never understood another side to interest rate determination should not have led those who followed him into the same logical error. We do become inflation prone as interest rates are set by the central authority below the levels that would compensate the public for structuring their liquidity in longer terms. This leads to an excessive rate of consumption, i.e. consuming more than we are entitled. The whole process of excessive consumption is made possible

by an 'alliance' between central banks and bankers for whom intermediation would be all but impossible without the assistance of central banks.

In the United States the combination of the federal deficit with the co-operation of the Federal Reserve Open Market Committee makes possible the required monetary expansion. While the advent of monetary targeting has greatly reduced the inflationary threat, with correspondingly higher interest rates, the process of monetary expansion still takes place. With targeting, the banking system finds that the liquidity supplied by the Federal Reserve system is insufficient to satisfy the Credit Market and, therefore, must encourage more illiquidity via the Deposit Market.

Nevertheless, the inflating countries (the USA and Great Britain in particular) have made the fixed exchange rate system an impossibility. Other countries, just as Switzerland, have been forced to decide whether to inflate along with the USA or to refuse to peg the US dollar. It is as simple as that. Since the monetary base of these countries will grow with central bank purchases, domestic inflation will result; therefore, the exchange rates can no longer be stabilised.

A RESURGENCE OF MONETARISM

The process of targeting the money supply practised by many central banks is a modernised version of the Quantity Theory of Money. It is to Professor Milton Friedman's credit that targeting exists at all, even though the targets are so often revised that the ardent Quantity Theorist might question the practical application of his doctrine. The difficulty has consistently been the definition of 'money'. As discussed earlier, liquidity can now be held in the form of interest-bearing commercial bank accounts as part of M_3 so that accounts other than the standard M_1 can also be part of the money supply.

Despite the difficulties inherent in the process, monetarism in its Quantity Theory form has been successful. Inflation in the United States was brought down from its annual rate of almost 14 per cent at the end of the 1970s to about 4 per cent in 1985, a respectable record under any circumstances. The underlying truth of this achievement is simplicity itself, yet it is so often ignored. During the inflation process, aggregate demand by means of monetary expansion does not increase output; only the microeconomic conditions of production can do that. Restrictions on monetary growth increase interest rates and result in

greater numbers of bankruptcies and receiverships, thereby forcing an improved efficiency on producers which, in turn, results in growing unemployment. Aggregate demand is therefore reduced and prices cease their upward trend. Thus, despite the difficulties of a definition of money, targeting rates, etc. as well as interpretation, the essential substance of 'Quantity Theory Monetarism' is borne out.[12]

The 'success', so-called, of monetary control does not work in international lending. It is in this area of bank deposits and loans that the Deposit Market becomes extremely important; in fact, it is by way of the Deposit Market that the entire system of Euro-currencies operates. The importance of this point should not be overlooked. In domestic lending only the Credit Market is 'operative' since interest rates are largely determined by the central authority, and the monetary policy determines the amount of lending. This is not true in foreign deposit lending. In this area, the Deposit Market becomes as important as, if not more than, the Credit Market. But since there is no international jurisdiction, there is no feasible method of monetary control to determine interest rates.

The method by which the Deposit Market adapts to the Credit Market in international lending has been through the technique of roll-over loans, syndicated and funded by short-term deposits in Euro-currency markets. In other words, being outside the scope of national monetary regulations, the markets for deposits are absolutely free to work themselves through with every conceivable means at their disposal. This is 'frightening' to many prominent bankers and experts who try to conceive of an international 'central bank', the counterpart of the national central bank, to impose some sort of regulation and 'safety net' in the event that liquidities are extended too far.[13]

It is interesting that we have come so far from the free market in our domestic banking systems that we express fear and concern over the development of free market institutions in international banking. *There will be no international central bank*; certainly the IMF is not equipped to occupy such a position, in the foreseeable future. There is no alternative to the free market international banking.

DIRECT FOREIGN LENDING

From Euro-currency lending via Euro-banks and Euro-markets it is only a short step to direct lending from an individual bank's own Deposit Market to foreign countries. This amounts to dispensing with

the intermediation of the Euro-banks and the bank's accepting the entire responsibility for liquidity to its depositors. In this case, there is no international central bank to render assistance when necessary.

The principle of direct lending to foreign Credit Markets is precisely the same as in the Euro-currency case, with one very important exception. An opportunity to earn higher rates of interest in the foreign than in the domestic Credit Market exists. The foreign branches of the specific bank are available 'on the spot' to identify the opportunities, and it becomes only a matter of transferring the necessary deposits from the home bank's Deposit Market.

The exception lies in the fact that direct lending, which is what the Swiss banks have been doing for so long, increases the foreign exchange reserves of the receiving country, and, technically, reduces the foreign exchange reserves of the lending country. Such lending is not Euro-lending, of course. Euro-lending involves the interbank deposit mechanisms which are a series of claims against a series of banks. No foreign exchange reserves are involved nor is there any impact on the deposits of the lending country.

Banks that have been accustomed to tight domestic regulation and a domestic Credit Market with the necessary liquidity being supplied by central banks, have not shown themselves capable of readily adapting to the task of intermediation between the Deposit and Credit Market system which foreign deposits and direct foreign lending require. This is not to suggest that they will not be capable of this in the future; quite the contrary, the learning experience which must have accompanied the recent unfortunate lending to less developed countries, including Latin America, must have been quite considerable.

Such adaptation to a free Deposit and Credit Market must include a few basic fundamentals. The free market in deposits, as well as in credits, must certainly include identifying the ultimate borrower to determine his (or its) credit-worthiness. It is surprising that banks seem to have sincerely believed that governments could not go bankrupt; therefore official loans could be made to governments without fear of a loss of liquidity. Milton Friedman was reported to have said in London that the 'whole panic about government debt is a laughable misunderstanding. After all it is common knowledge that governments never repay their debts, they only re-finance them.'[14] As the reporter noted, it is not the principal that matters in official debt, but the interest. Unless Friedman had reference to a method of capitalising interest and selling bonds in the currency of the loan to finance the payment, it is Professor Friedman himself who may be

susceptible to a 'laughable misunderstanding'. For Brazil, about $65 billion of the country's $100 billion foreign debt is owed by the government.[15] Since the currency of the debt is US dollars, foreign exchange must be earned from a surplus on the balance of payments. The burden, therefore, of the service of Brazil's total debt amounts to about 5 per cent of the annual Gross Domestic Product – hardly a justification for Friedman's optimism.

For banks, the evaluation of a country's credit-worthiness was a new experience. They had no accepted and tested mechanism through which such an evaluation could proceed. Despite this fairly obvious weakness on the part of banks, Citibank, the pioneer in such lending, continued to argue as late as 1984 that the 'combination of world economic recovery and sound adjustment policies by the less developed countries is sufficient to solve the problems of the bankers'.[16] Such pious hopes are simply not sufficient grounds for bankers' lending.

As a protection from the Deposit Market side, banks must have sufficient 'own' funds to protect their depositors in the event of a collapse of their loans. Anglo-American banks, in particular, have very much overexposed themselves in this regard, to the extent that only about 3 or 4 per cent of foreign loans are covered by available 'own' funds. Doubtless this stems from the simple extension of their domestic practice into the foreign field, a situation in which entirely different circumstances apply.

The foreign lending of banks must be confined to project lending so that means of repayment can be provided from the cash flow generated by the project. It is astonishing, at least in retrospect, that even balance of payments deficits have been covered by bank borrowing, especially during periods of the oil crises. Euro-currency borrowing for such purposes, while likely to result in a smaller risk for banks than direct foreign loans, is nevertheless only justified in the event that future sources of finance are certain to be forthcoming. The Euro-currency loan, therefore, merely 'tides the country over' the immediate emergency.

The three 'rules' for foreign lending mentioned above – (i) methods of evaluating credit-worthiness to be applied to nations just as to business enterprise, (ii) the avoidance of overexposure of loans relative to 'own' liquid resources, and (iii) specific project lending rather than general loans – are obvious enough. They are developed from observation of how the Swiss bankers have been making such loans, the result of a century's experience.

There is, nevertheless, the consciousness that the US and British banks that participated in such lending during the decade of the 1970s did so with more than just an awareness of their lack of experience and technical know-how. Their overextension of their liquidity positions must have been accompanied by an expectation that the governments and international organisations would not permit national bankruptcies for political reasons. Indeed, there was positive encouragement of bank lending during the earlier years of the OPEC oil crisis; only the Swiss banks, it appears, had the good sense to resist. Recycling oil money was seen by governments and central bankers as the world banking system's solution to a massive financing problem.

Whether the banks were thus misled into the liquidity 'traps' of their own creation or not, we cannot say. We can hope, however, that the banks will develop the necessary technical and normative facility for satisfying the requirements of international Deposit Markets as well as Credit Markets, because only in that way will the future of the world's financial system be maintained on a sound and rational basis.

8 Financial Markets and Government

The founding of the Bank of England during the reign of William of Orange was probably the second most momentous event in history, the first being the invention of banking. It was not the monopoly of banknotes nor being the custodian of the nation's gold reserve that was important, but the fact that the government itself had a bank of its own from which it could borrow. Government borrowing from its own bank did not mean that government was borrowing from the nation itself – its population, the nation's business enterprise or its wealth; it was, rather, borrowing from an extraneous source. The debt so incurred by the government to its central bank represented no more than a debt; hence it consisted of the money supply.

It is obvious, and almost goes without comment, that in some cases the spending of the proceeds of government borrowing could very well enhance the total wealth of the nation. Consider, for example, a country in such a state of depression that the wealth of the savings part of the population is locked into non-productive use. Such savings could either be hoarded unproductively or even squandered in wanton and useless consumption which generates little employment. A government can, by borrowing from its central bank, actually 'free' this wealth for investment in the economy. In this case, government borrowing makes good economic sense. We can interpret this in monetary terms by saying that the government has increased the money supply so as to satisfy the enormous demand for money which, because of depressed conditions, has become so great that the public refuses to spend.

Rarely, unfortunately, have governments behaved in such a responsible manner. Armies have been financed and wars have been fought by monetary expansion, and in times of peace, government bureaucracies have relied more and more on borrowing rather than taxation for their incomes. It is, to put it simply, easier to borrow than to tax.

The Bank of England has become the 'model' for other central banks that have followed in the English tradition – certainly the United States and Canada. In a kind of 'Anglo-American' tradition, governments have been seen to have the right to borrow almost *ad infinitum* depending upon the legislation which happened to be in effect at the time. Such legislation, while limiting the borrowing powers of the government during ordinary times, was readily set aside during appropriate emergency conditions.

Many economists, particularly of the Keynesian macroeconomic persuasion, like to refer to a process known as 'monetising the debt', which simply means the conversion of government debt into money. Such monetisation is accomplished by borrowing from the central bank so as to pay off the bonds held by the public. The fact of the matter is that all debt is really 'monetised', because the increased supply of money to purchase a new bond issue must be in place before government debt can be purchased by the public. The government, in other words, must first 'give' the public the money, then issue bonds, etc. in order that the public, in turn, can afford to make the bond purchases without causing interest rates to rise. If governments and their central banks did not act in this way, interest rates would certainly rise to unprecedented and unacceptable levels because of the enormous size of government deficits.

THE MECHANISM OF THE SWISS NATIONAL BANK

Not all central banks share this background. The perception that the central bank is, and should be, the government's bank, is not Swiss. While the Swiss National Bank, just as its Anglo-American counterpart, has the right of note issue, there is no provision for an automatic increase in deposits whenever the government debt increases. We can readily see this from the components of the monetary base of the Swiss financial system:[1]

$$MB = CR + OM + RC + Rf$$

The monetary base, MB, includes the foreign currency reserve, CR, an open market portfolio, OM, a reserve component, RC, and a refinancing component, Rf. Of these, the foreign currency component, CR, is by far the most important. Those Swiss domestic banks which happen to have an excess of foreign currencies can sell them to the National Bank for Swiss francs, thereby increasing the domestic money supply.

On the other hand, should the banks already have ample francs, they may purchase foreign securities with their surplus foreign exchange from the securities market, thereby lowering the interest rate (or raising the price) on those securities. In this case, the Swiss monetary base is unaltered since the foreign exchange remains as foreign exchange; only the interest rate on these securities is affected. Thus, when a surplus of foreign exchange is available to Swiss banks,

because of a positive balance of payments or, more likely, an inflow of foreign capital, the result is expansion of the domestic money supply and/or a lowering of interest rates for the particular securities.

The open market portfolio, *OM*, unlike that of banks in the Anglo-American tradition, is not significant. The principal reason for this is the fact that Swiss banking law requires that only gold or foreign exchange be used for the backing of banknotes. Since (i) deposits are directly substitutable for banknotes, and (ii) banknotes are used for payments purposes much more generally than deposits, it follows that open market operations which increase or decrease the deposits of banks without a corresponding increase or decrease in gold or foreign exchange, are impossible. This, combined with the fact that any attempt at open market operations is likely to affect the interest rate adversely, means that what is to the United States the most important single method of affecting the reserve base of the banking system is just not practicable to the Swiss.

The reserve component of the monetary base, *RC*, is quite similar to that of any banking system – the nature of reserves being carefully defined in the Swiss Bank Law. These reserves consist of liquid assets such as Giro accounts with the National Bank, easily marketable bills, Rescription bonds and debt certificates which may be discounted with the Swiss National Bank. Additionally, short-term sight balances with other banks which are in surplus – i.e. not balanced by corresponding liabilities with those banks – short-term bonds of foreign states if payable in Swiss francs, and bankers' acceptances, are also included in the reserve component.

The reserve component appears again in what are probably the most stringent control techniques of any banking system anywhere in the world. The various types of liabilities of the Swiss banks are carefully defined as between short and longer term ('short' being either liquid, at sight, or with maturity in less than a month. Article 17 of the Bank Law defines these liabilities in some detail.) The reserve ratios against these liabilities vary, from a low of 6 per cent of short-term liabilities that are less than 15 per cent of total liabilities, to 36 per cent of short-term liabilities that are greater than 35 per cent of total liabilities. At the same time both liquid and marketable assets of the reserve component must together amount to 6 per cent of the total liabilities of the bank. Thus, a simple reserve ratio of 6 per cent is not enough. The reserve must be structured in such a way as to guarantee a reserve component which is actually considerably greater than 6 per cent.

All these are stringent control mechanisms indeed, and as part of the

monetary base they are not only used to clear Giro accounts among banks, but are also a means by which the National Bank can exert direct control over all the banks. For example, when the SNB wishes to limit the discounting capacity of the banks and thereby place limits on their capacity to obtain credit from the SNB, it decrees that the Swiss banks must place an amount with their reserves at the National Bank equal to an amount by which the limited credit is exceeded. This is what the reserve component, *RC*, really means. This limiting of credit facilities for the banks is probably the most powerful of the discretionary control mechanisms the SNB has.

Finally, the *Rf* component of the monetary base represents 'Sterilisation Rescriptions', a device whereby the National Bank can effectively sterilise excess reserves by offering rescription paper at attractive interest rates. The purchase of these instruments by the banks means that any excess of some other component of the monetary base will be reduced; hence an excess of reserves is thereby absorbed. To the extent that these Rescriptions are used by banks to finance their reserve requirements, they may be included in the monetary base.

The significant feature of the Swiss monetary base is the fact that, aside from the small open market component, no government securities exist in it. This is contrary to the Anglo-American system which accommodates government debt within the base itself, hence automatically providing for a monetary expansion as a consequence of government deficits financed by securities purchased by the central banks. In the Swiss case, such automatic financing of government deficits is precluded by law.[2] This difference between the two systems is crucial. It means that in one set of countries, the 'inflating countries' referred to in Chapter 6, government debt tends to expand the money supply, while in Switzerland it does not. The difference stems from the function of the central banks as the government's banker; i.e. the Swiss provide for only temporary financing of the government by the pledging of securities – no more – whereas in the other case, government debt is part of the monetary base itself. In the inflating countries, pre-election promises of massive government expenditures without corresponding tax increases appear very attractive to voters, who do not recognise the consequential monetary expansion and the corresponding inflation which inevitably follow. This particular source of inflation is not possible in Switzerland.[3]

In the Anglo-North American banking system the function of the 'government's banker' has relatively little significance until the government deficit reaches a significant size. It is, in other words, quite

possible for the government to borrow from its citizenry without interest rates rising to unacceptably high levels when deficits are relatively small. However, when deficits reach greater magnitudes, borrowing from the public is no longer possible without substantial 'crowding out' effects within the capital market. This is a result of the excessive interest rates, the consequence of excessive government borrowing, which are too high for the private sector to sustain without substantial price increases.

It is at this point that governments must provide the public with the extra funds with which to finance the deficit. These funds find their way into the hands of the general public, ultimately, in the form of higher incomes so that a facade of 'non-inflationary borrowing' from the public to finance government deficits occurs. To repeat, the government must first provide the money so that the public can afford to purchase the instruments of debt.

When deposits are plentiful in the Anglo-American banking systems, as they must be to finance the government deficits, the pressure of market demand for credit is satisfied by these new deposits. This makes all the difference. Not having such a ready source of additional deposits forces the Swiss banks into the foreign sector for their additional deposits for the rather obvious reason that the savings capacity of the Swiss economy alone, though large on a per capita basis, cannot sustain the enormous volume of loans and investments which make up the Swiss capital market. This forces Swiss banks into a position of looking outward for their deposits toward becoming part of a world banking system.

AN ANALYSIS OF SWISS FOREIGN DEPOSITS

The analysis developed in Chapter 6 has the advantage of focusing on the essentials. In that chapter, the locus of equilibrium points in the Deposit Market was developed as an upward sloping relation which relates interest and the anticipated prices for commodities. This relation, therefore, expresses the amount of expected increase in prices which would be compensated by a corresponding increase in the interest rates. In effect, it is merely the well-known relation between inflation rates and interest rates which determines 'real' interest rates at equilibrium. In Figure 8.1, all points to the right of the *DM* line indicate negative real rates, and all points to the left, positive real rates. The *DM* relation is, therefore, a 'boundary' dividing the

quadrant into two parts. The boundary itself is the equilibrium liquidity structure which satisfies the general public as between inflation rates and interest rates.

Similarly, the Credit Market relation is the locus of points of equilibrium relating the value of the expected marginal product of capital (or prices) to the interest cost of capital. Again it relates, though with a negative slope, the increase in the price level of the output of capital to a decrease in the interest cost. It expresses, therefore, the well-known inverse relation between capital values and interest rates, and as capital values rise with falling rates so the values of the output of capital must rise to sustain the higher capital values. Thus, similar to Deposit Market equilibrium, the Credit Market relation is the structure of liquidity between interest rate costs and expected values of the marginal product of capital. When the two sets of equilibria are equated, both markets are satisfied.

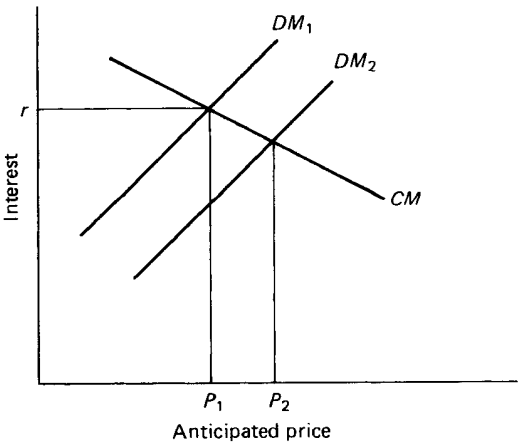


Figure 8.1 Deposit market shifts with fixed exchange rate

An increase in foreign funds, independent of the interest rate, will result in a rightward shift in the *DM* relation because of an increase in expected prices. This follows because the necessity for the National Bank to purchase surplus foreign funds directly expands the monetary base, i.e. it increases available bank deposits with consequent inflationary tendencies. This is not merely the Equation of Exchange. It is, rather, a new set of Deposit Market equilibria relating higher

interest rates to higher price levels. The *DM* relation has shifted rightward with a new set of interest rates lower than before.

A continuous input of foreign capital can result in inflation with only a small impact on the interest rate under the realistic assumption that the domestic *CM* relation is relatively elastic. Switzerland is a small country with a limited capacity to expand output to the same extent that foreign capital imports increase. Price increases from P_1 to P_2 will result from such additions to the monetary base with only a small impact on interest rates, and this can result in a domestic inflationary situation which is hardly tolerable.

Inflation resulting from a continuous expansion of the monetary base could only be reduced if the National Bank were relieved of the necessity to purchase surplus foreign exchange. This means that the domestic money supply would be effectively insulated from the foreign supply of funds as they enter the banking system and the Swiss franc would be allowed to seek its own level in a free market. We can show this by way of attaching a foreign exchange quadrant back-to-back to share the common interest axis, as in Figure 8.2. The foreign funds market, *IM*, functionally relates interest and the foreign exchange rate of the franc, *Fx*, such that the higher the interest rate, the greater is the attraction for foreign investment; consequently, the higher the Swiss franc exchange rate.

The domestic sector is now effectively insulated from the foreign sector by means of (i) the flexible exchange rate and (ii) the

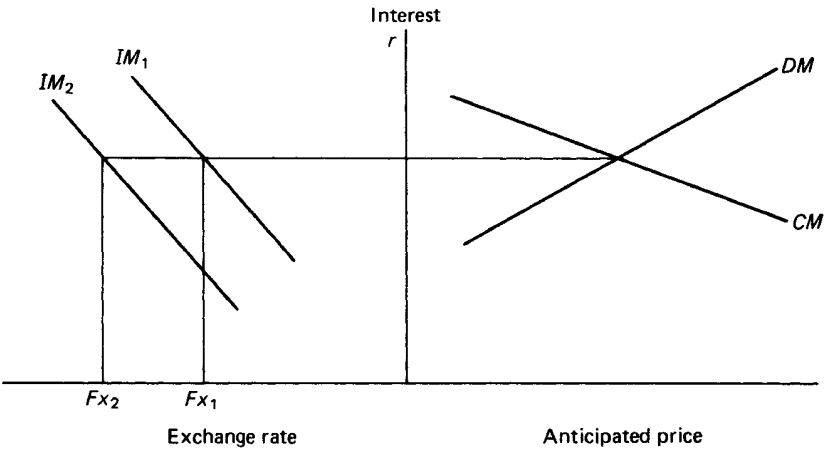


Figure 8.2 The appreciation of the Swiss franc

government's policy of negative interest rates for domestic accounts of foreign origin. As the banking industry attracts foreign funds for reasons other than more attractive interest rates, a leftward shift in the *IM* function to IM_2 results. The impact of an inflow of foreign investment is entirely on the foreign exchange rate of the franc which appreciates from Fx_1 to Fx_2. Because of the policy of the SNB, the Swiss banks proceed to 'spin off' their Swiss franc funds of foreign origin into more attractive foreign investment, a financing activity which is encouraged by exchange appreciation.

It is not difficult to recognise the inevitable result. Exchange appreciation means costly exports, especially when such exports are competing with those of other countries so that a high demand elasticity for Swiss exports results. Accordingly, in 1978 the National Bank was persuaded to intervene once more to stabilise the exchange rate, with the unfortunate results already noted in Chapter 4.

The conflict of interests between the financial community and the 'real' economy is obvious. Government intervention, in this case persuading the National Bank to substitute an exchange target for an M_1 target, does not resolve difficulties without creating new ones. To this extent, there is a fundamental conflict between the banking industry and the producing industry.

Since the banking industry far exceeds the domestic capacity to support it, it must seek foreign funds to finance the foreign investment. At the same time, leftward shifts in the *IM* function resulting from this foreign banking activity can occur at the expense of exports and employment in export industries. In this case, certain Socialist influences in the National Assembly can argue with considerable force for additional banking taxation to increase the general welfare by transferring wealth from banks to the export industry.

FOREIGN BORROWING FOR COUNTRIES OTHER THAN SWITZERLAND

Not all countries enjoy the enormous prestige of both the Swiss franc and its banking system which accesses Deposit Market funds from the entire world, though many countries might like to be in such a fortunate position. Other countries can be represented in a somewhat different theoretical format, as in Figure 8.3.

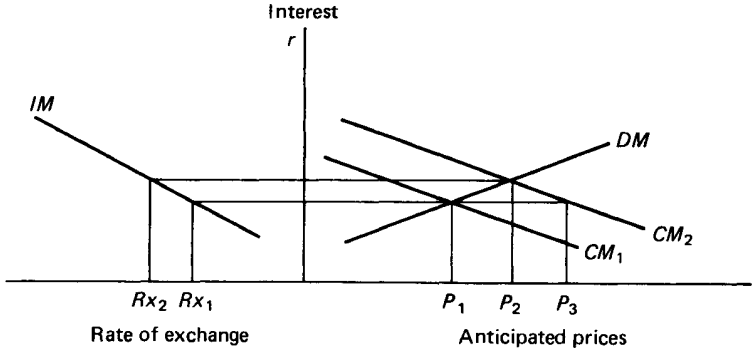


Figure 8.3 Impact on the exchange rate of shifts in the credit market

Suppose investment opportunities present themselves in a country so that the Credit Market shifts rightward. Such investment opportunities would likely be the equivalent of expected increases in the value of the marginal product of capital rather than merely inflationary price increases. If the government satisfies the new Credit Market with its own policy of monetary expansion without increased interest rates, there will be an additional inflationary impact on prices equal to the difference between P_1 and P_3.

Suppose, however, that the government in question decides not to expand its money supply so as to maintain low interest rates. The price level P_2 will apply at a higher interest rate. The rise in interest rates will attract foreign currencies, particularly Euro-currencies, in sufficient quantities to establish a new and higher exchange rate at Rx_2.[4]

On the other hand, should the government follow a policy of fixed exchange rates, the left quadrant will not apply, and the central bank, just as in the Swiss case, will purchase the foreign exchange at the agreed rate. In effect, foreign funds will finance the increased domestic demand of the Credit Market because the monetary base of the country will expand, unless, of course, some form of Exchange Equalisation Accounts exists to insulate the monetary base from the effect of inflows of foreign exchange.

This means that most countries without such accounts and which elect to pursue a fixed exchange rate regime are forced to follow a monetary policy that is effectively dictated by major Euro-currency countries such as the United States. Just as the Swiss experience bears out, inflows of foreign capital consisting of foreign currencies exchanged for domestic currencies will increase the monetary base of the

recipient country. The result must be further inflation, fuelled, as it were, by the inflation policies of the important reserve currency countries such as the USA. Monetary expansion in these inflating countries is passed on to other countries that have foreign exchange as part of their monetary base. The transmission mechanism here is an outflow of capital from the inflating country to the receiving country because of balance of payments deficits in the inflating country. By this means, the monetary base of the capital-receiving countries is expanded.

But fixed exchange rates are not absolutely necessary for transmission of inflationary pressures from reserve currency countries to others. Under the earlier concepts of flexible exchange rates, countries were supposed to be free to follow their own monetary policies under the 'protection' of a flexible exchange rate system. Of later years, the massive Euro-currency markets have ensured that such is not true ad that an inflation transmission mechanism, even under a flexible exchange regime, still exists. Consider Figure 8.4 which by now will be quite familiar.

While it is true that Euro-currencies are exported and thereby do have an impact on rates of exchange, it is also true that the important 'commodity' which is exported is not the currency itself but bank liquidity. Any shift, therefore, in the internal credit markets from CM_1 to CM_2 can result in an increase in demand for bank liquidity which, unless interest rates are permitted to reach an equilibrium level with the domestic Deposit Market, can result in a liquidity shortage among banks.

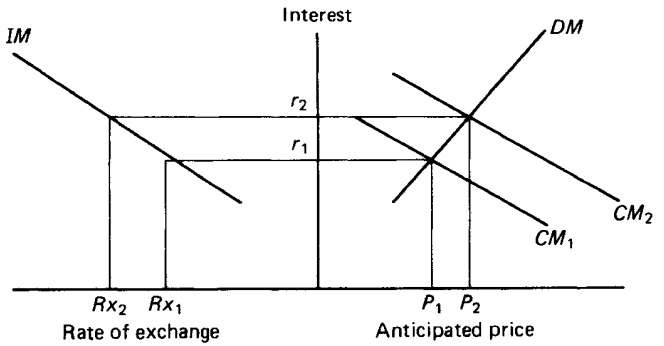


Figure 8.4 Transmission of inflation via liquidity transfer

It is the shortage of liquidity which is at the centre of the argument. Any price which is administered and which is arbitrarily set below the free market price will cause a shortage of supply and an excess demand. This is true in the case of banking just as in any other area of economic life. The commodity, in the case of banking, is liquidity, and the price is the interest rate which, along with the inflation rate, ordinarily equates the liquidity structures of the Deposit Market and Credit Market. When interest rates are lower than this strategic market rate, banks experience a shortage of liquidity and, consequently, fail to satisfy the demand for credit. It is precisely here that foreign credit (lending) can supplement the domestic credit. Such foreign credit could be in the form of Euro-currencies or direct lending from foreign banks with, for example, branches in the borrowing country.

Under ordinary (free market) circumstances, the domestic interest rate should rise from r_1 to r_2. When governments administer a rate r_1, and so long as r_1 exceeds the rates of lending countries, liquidity will flow into a borrowing country causing the exchange rate to rise from Rx_1 to Rx_2. This distorts what would otherwise be an equilibrium situation.

An excellent example of the above situation is the oil-producing countries that expected actual increases in oil prices to shift their Credit Market relations rightward. By not permitting an interest rate at r_2, which would have equated the respective domestic liquidity structures, an excess of demand existed to be satisfied by a large amount of borrowing from foreign banks.

If the *IM* function is elastic – a likely circumstance if the currency of the country is not a major one either in the foreign exchange markets or in international trade – the inflow of foreign loans will have a substantial impact on the rate of exchange, shifting from Rx_1 to Rx_2. This increase may manifest itself in 'rescuing' a Latin American exchange rate from massive depreciation rather than an actual appreciation. Under either circumstance, so long as direct foreign borrowing and Euro-currency liquidity are available from Euro-banks in response to the increase in interest rates in a borrowing country, rates of exchange will continue to appreciate.

It is simplicity itself to recognise the consequence. The borrowing countries increase their consumption of imports encouraged by the appreciated exchange rate. At some time the discovery is made that the anticipated higher prices for oil are not materialising, but, and this is an essential point, in the meantime, the population has become accustomed to higher living standards with the relatively cheap

imports. Any reduction in the inflow of foreign borrowing is, therefore, intolerable. Meanwhile the governments of the borrowing countries make the usual discovery that it is easier to borrow from their central banks than to tax; hence they prefer to increase the money supply, with consequent domestic inflationary pressures.

The necessity to service the foreign loans forces the public to reduce its domestic consumption to increase exports. There is no rightward shift in the domestic Deposit Market relation by definition (though decreased taxes *could* shift the *DM* relation rightward). The private sector, to increase domestic production so as to keep pace with excessive consumption, depends upon funds from the governments for its investment financing. The government in its turn borrows from its central bank by selling to it government securities, since higher taxes are out of the question. Interest rates are maintained at low levels to encourage domestic investment, and foreign banks, having discovered the inability of these countries to honour their obligations, reduce their lending, causing a collapse in the exchange rate. Meantime the Credit Market shifts continuously rightward as inflation rates climb. We would suggest that this is precisely the description of events in very many countries during the recent past.

In other words, flexible exchange rates have not necessarily insulated an economy from external inflationary pressures. The reason for this is that the domestic economies from which both direct and Euro-lending originate need not (indeed will not) experience any decrease in their money supply, and since these countries at the source of lending are 'inflating' countries there will likely be no shortage of liquidity either. For borrowing countries, on the other hand, the appreciated exchange rate sustained by foreign borrowing encourages further imports of goods and discourages the all-important domestic export industry.

Foreign lending by the 'inflating' countries will shift surplus liquidity to other countries that have liquidity shortages in response to interest rate differentials. If, on the other hand, governments did not interfere in domestic interest rate markets by means of monetary expansion in the first place (in this case the country from which the lending originates) so that a surplus of liquidity did not exist, and interest rates were free to find their own levels in the borrowing countries so that there existed no liquidity shortage there either, both interest rates and exchange rates would move toward an equilibrium appropriate to a worldwide level. The classical 'insulation' of economies by means of the flexible exchange rate would hold true.

Without attempting a more complex diagram, we can visualise this

result. Assuming that exchange rates and interest rates are free to find equilibrium, a shift in the *CM* relation in any country may attract foreign lending in response to the inevitable rise in interest rates. This must result in exchange rate appreciation which, in turn, will check the demand for the borrowing country's exports, as in the case of Switzerland noted above. Assuming there is no domestic monetary expansion in the borrowing countries, the declining demand for exports will result in fewer investment opportunities within the country and the *CM* relation will cease its rightward shift. Investment for domestic production will be the only alternative for the Credit Market. Eventually equilibrium will be restored, with the inflow of foreign lending being reduced to the point that foreign loans may just be serviced by the capacity of the borrowing countries to earn foreign exchange.

Should the country in question manage to finance its own liquidity requirements from its own sources so that the interest rates moved upward along an elastic *DM* relation, domestic equilibrium in terms of liquidity can be maintained without inflationary pressures. This equilibrium would be the consequence of a domestic saving increase in response to higher interest rates. In this case, very little inflow of foreign borrowing would be required, just that which the country can service from its own earning capacity.

Flexible exchange rates, therefore, are both possible and beneficial, but require that governments permit domestic interest rates to seek equilibrium levels as quickly as possible, and certainly there must be no government interference in the exchange rate to protect the export industries. We cannot have it both ways. Fixed rates of exchange do encourage international trade, but they do transmit inflation (or deflation) readily from country to country by means of expanding or contracting the monetary base of the inflation-receiving country.

GOVERNMENT CONTROL IN A EURO-CURRENCY WORLD

With the advent of the Euro-currency the distinction between foreign capital investment which derives from both domestic and foreign savings (as in the Swiss case) and foreign ownership of domestic deposits (the Euro-currency case) becomes blurred. In the latter, the currency is deposited with a Euro-currency bank, whereas in the former, the Swiss banks acquire the foreign currency itself. There is a sharp distinction, nevertheless, from the originating banking system's

point of view. As has been argued above, in Chapter 7, the Euro-currency markets are actually lending liquidity; no actual currency is being lent. This is not the case for the Swiss banks. These banks maintain control of their liquidity structure at the same time that loans in both Swiss francs and other currencies are made.

This is the fundamental reason for the Swiss insistence upon not permitting their currency to become a Euro-currency. The problem facing the US banks as outlined by Rockefeller, and also noted in Chapter 7, is the liquidity 'stretch'; i.e. the capacity to continuously rollover short-term deposits so as to satisfy Euro-currency market requirements is limited. The originating banks lose control over their foreign asset liquidity structures since an intermediating Euro-bank is involved which proceeds to lend longer-term. The final assets (those of the ultimate borrower) tend to become less liquid, on the one hand, while the deposits of the original lending banks are generally more liquid. This is the liquidity-bringing function accomplished by Euro-banks.

Swiss bankers are simply not prepared to undertake the risk involved, which to them is huge. There are not enough domestic Swiss franc deposits to sustain the necessary deposit rollovers, in the first place, and, in the second, foreign deposits, by their nature, cannot be made sufficiently illiquid to serve the purpose. This is why a Euro-Swiss franc is just not feasible – the Swiss banking system could not sustain it.

It is certainly true, as argued above, that domestic monetary policies in any country become extremely difficult in a Euro-currency world. Higher domestic interest rates (higher than other countries) must attract Euro-currency liquidity for investment purposes, and, conversely, rates lower than Euro-rates must mean a loss of domestic capital (or liquidity) to foreign uses. In a real sense, the world is financially and monetarily one.

The unity of the world in this regard has led some individuals to argue for a world monetary policy, co-ordinated in such a way that all countries fight inflation, or reflate their economies to stimulate world employment. A kind of world super bank, to develop and co-ordinate such a world policy, has been suggested, largely based on Professor Mackinnon's analysis of the world's supply of money, M_1.[5]

Such radical proposals as these do tend to emerge as the world's monetary system inevitably lurches from crisis to crisis. Banks become strained, some even go into receivership or bankruptcy as they attempt to bridge the yawning gaps between their domestic deposit markets

and their foreign asset markets. The 'stretch' between the two markets lengthens with excessive intermediation, thereby producing the crisis. The crises, we would argue, will continue so long as nations continue to expect the impossible from their banking systems, i.e. the establishment of interest rates for the benefit of the 'real' domestic economy and a requirement that banking systems conform to such policies which make successful intermediation impossible. Government control and national monetary policies to benefit one nation in a community of nations in an international banking system are no longer a feasible objective.

THE AFTERMARKETS

If such radical proposals as 'super banks' are not feasible, and if a return to fixed exchange rates is not expected in the near future, what is the logical solution? While the world's banking system has proved to be much more adaptable and flexible than could possibly have been foreseen, there is still a mountain of international debt which seems to grow forever, but which must reach the limit of banking's capacity to bridge. Here it is the contribution of the aftermarkets which make possible the unloading of this massive debt load of the banks. But, far from lending stability to the exchange rate system, aftermarkets, as argued below, are actually destabilising.

Aftermarkets mean the markets for the sale of debt in the form of debt instruments to institutions or individuals that seek just such a type of investment. There are investors, in other words, who are prepared to accept the risk of capital depreciation along with the possible gain from capital appreciation. In the case of banks, they permit the sale in the aftermarket of those assets which would otherwise prove to be an intolerable burden of illiquidity.

While the aftermarket is the one outlet which saves the banks from certain collapse under the strain of stretched liquidity, it does prove to be a major source of exchange rate destabilisation. An analysis similar to the *CM* and *DM* relations used above can show this most effectively. In Figure 8.5, points of equilibrium between interest rates and exchange rates are indicated. Aftermarket equilibrium, in this case, means the increment in the exchange rate which would just compensate for a small decrease in the capital value of a foreign security. Thus, a holder of a foreign bond, for example, would suffer a loss in the market value of the bond in the event that interest rates should rise.

Such a loss could be recouped by an increase in the exchange rate between the currency of the bond and his own domestic currency. The result would be a negative relation between capital values and exchange rates, as in Figure 8.5.

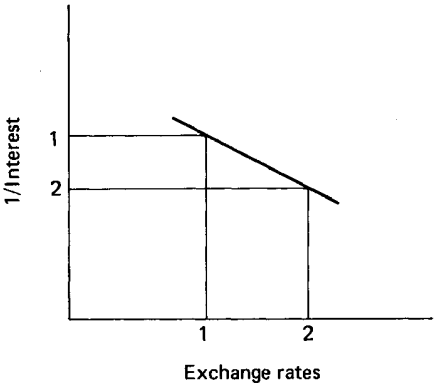


Figure 8.5 Capital values and exchange rates

Capital values are indicated on the vertical axis as the reciprocal of the interest rate. Exchange rates are on the horizontal axis. The slope of the relation suggests the degree of response of exchange rates which would compensate for a specific loss of capital value. Thus, should capital values decline from equilibrium point 1 to equilibrium point 2, the exchange rate appropriate to those values would be restored by an increase in the rate of exchange in the currency of the asset from point 1 to point 2.

We note therefore that the relation between capital values and the exchange rate is the locus of equilibrium points which accommodate changes in values. There is no significance in the position of the relation, only in the slope. The actual exchange rate could be at any arbitrary value at the time of a purchase of a foreign asset; it is the change in the exchange rate necessary to compensate for an increase in the interest rate (decline in capital value) that matters.

The other feature of the relation is that any of the equilibrium points which have been already established represent unstable equilibrium. As in any such market, any change in capital values from point 1 to 2 need not be immediately compensated by corresponding increases in the exchange rate. To the contrary, exchange rates are not likely to appreciate until such time as the increase in the interest rate, *which*

precipitates the decrease in capital values, encourages the inflow of capital (as per the *IM* function in Figure 8.4 above) to increase the demand (and the exchange rate) for the currency. Even this capital inflow may not be forthcoming immediately, so that the compensatory appreciation of the exchange rate (point 1 to point 2) may be delayed.

Eventually the appreciation in the rate of exchange must come. The aftermarket itself will provide the incentive in the form of relatively cheap foreign currency bonds or other appropriate instruments. The exchange rate will then appreciate with a rush to a new and higher level as demand for these cheaper foreign bonds increases. Conversely, depreciation of the exchange rate can occur through the influence of the aftermarket in the form of a collapse in the exchange rate under precisely opposite conditions.

We have, thus, two distinct influences on the value of exchange rates which result from interest rate changes. The first of these is a functional relationship which follows from the well-known fact that higher rates of interest attract international capital which must move through foreign exchange markets to invest in higher returns. On the other hand, there is a second relation, the aftermarket for bonds, particularly foreign currency bonds including Euro-bonds, which will seek equilibrium capital values. Such values will also depend upon the interest rate but will vary inversely with the interest rates. Consider Figure 8.6.

There are two relationships relating interest and foreign exchange rates: first, the *IM* function, which relates interest and exchange rates

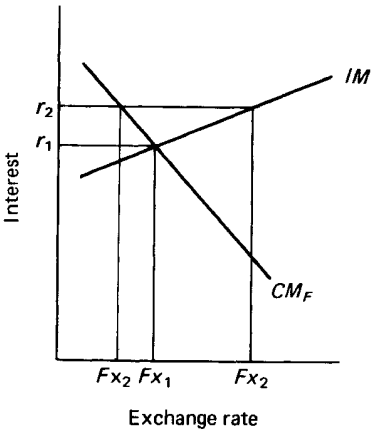


Figure 8.6 Rates of interest and exchange rates

positively, and second, the CM_f relation which represents the equilibrium levels of interest and foreign exchange via the aftermarket (or foreign Credit Market). This is a negative relation and is based upon the double assumption that as interest rates fall, the aftermarket expects them to fall further ($r - r^* = +$), with r^* equal to expected rates, and when interest rates rise and are expected to rise further, $r - r^* = -$.[6] Market expectations of rising capital values ($r - r^* = +$) encourage an inflow of foreign capital to take advantage of capital gains, increasing exchange rates; similarly market expectations of falling capital values ($r - r^* = -$) discourage capital inflow and encourage capital outflow, hence decreasing exchange rates. Just as in the case of any market in equilibrium, all points to the right of the CM_f relation are disequilibrium points with the exchange rate higher than equilibrium levels; similarly, points to the left of the CM_f relation indicate relationships for which interest rates are above levels appropriate to the exchange rate.

But there is still one more consideration, that of elasticities of both relationships. Since rising rates cause a collapse of capital values, capital will tend to 'flee' the aftermarket when rates are expected to continue to rise. On the other hand, rising rates attract capital investment in the initial market (or investment market). There are, therefore, two effects to be considered: (i) the relative strength of the *IM* function (the investment market), and (ii) the structure of expectations. The relative strengths of both will be indicated by the slopes of the two relations. Expectations, on the other hand, will determine the direction of movement along the CM_f relation.

Starting at equilibrium (defined as simply the level of interest which satisfies the exchange rate via both relationships), assume an increase in the interest rate because of government policy. With an elastic *IM* function and an inelastic CM_f (foreign Credit Market relation) it is likely that foreign exchange markets will react so as to increase foreign exchange values.[7] Elasticity of the *IM* function will overcome any effect of the CM_f.

But suppose the opposite were true – elasticity relationships are reversed. In this case, the result is quite different, as Figure 8.7 suggests. With an interest rate, r_0, which satisfies the foreign Credit Market, CM_f, and the investment market, *IM*, the foreign exchange rate is at Fx_0. Any increase in the interest rate will now lay the groundwork for a future collapse in the exchange rate because of both the elasticities in the two markets and the nature of expectations of the aftermarket. We can expect such a collapse because of the sheer

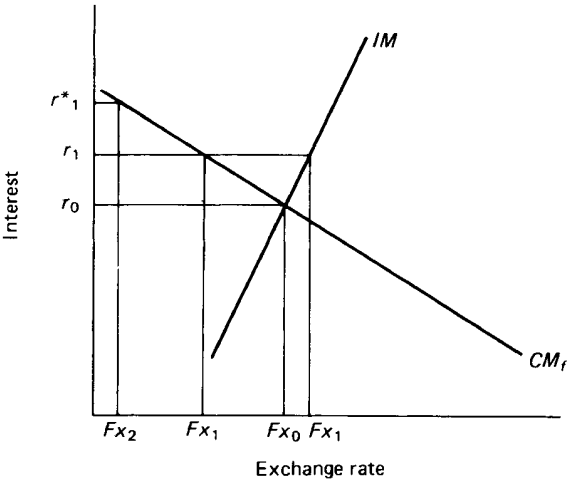


Figure 8.7 A greater importance of the aftermarket

weight of the aftermarket *vis-à-vis* the investment market. The negative effect of the aftermarket overwhelms the positive effect of rising rates in the investment market. This is inevitable since the foreign exchange markets throughout the world make no distinction between the aftermarket and the direct investment market, and direct their purchases and sales of foreign exchange on the basis of market consensus.

Carefully examining Figure 8.7, we can see that should a government set an interest rate above the market rate, r_0, to r_1, with the expectation of an appreciation of the exchange rate on the *IM* function, the result via the aftermarket could be entirely different. The market may expect an interest rate of r^*_1 to follow in the near future, in which case the exchange rate of Fx_2 via the CM_f relation would 'overwhelm' the Fx_1 via the *IM* function. The decrease in the exchange rate via the aftermarket considerably exceeds the increase in the exchange rate via the foreign investment.

This is the case, we would argue, of the depreciation of the US dollar during the latter 1970s (see Chapter 6). The increase in the Federal Reserve discount rate to 12 per cent in 1979 resulted in a collapse of the value of the US dollar at that time, quite contrary, incidentally, to the more usual circumstance of a higher interest rate attracting foreign capital and increasing the exchange rate (as per Figure 8.4). In one case it is the free market, the aftermarket for existing bonds, exerting

the stronger influence on interest rates via capital values, while, in the ordinary case of foreign investment, it is a matter of foreign capital seeking its highest rate of return.

It should be stressed once more that the equilibrium rate in the aftermarket need not respond at once to interest rate changes. This market, like all financial markets, is subject to exogenous influences of varying strengths, not the least of which are expectations. Using the US dollar as an example, the market will speculate as to the reasons for the interest rate being set at r_1 in the first place. Motives such as the anti-inflationary stance of the Federal Reserve Board will certainly be part of the speculation of the market participants. In addition, the matter of the interest rate, r_1, being permanent or transitory will also have an influence. Will further increases in the interest rate occur or will the interest rate be restored to its former level? If the latter is likely to be the case, market speculation should postpone sales of US dollar bonds, thereby strengthening the effect of higher interest rates in the foreign investment market.

It is the latter case that makes possible the 'talking down' of the US dollar by the Big Five conferences when governments wish to depreciate their currency and hence would set a lower than free market interest rate. Markets recognise that support of the dollar by the major central banks of the world at lower exchange rates suggests a permanency of such exchange rates, hence the corresponding permanency of the anticipated interest rate to equal the actual rate as set by the US Federal Reserve Board.

Perhaps the most interesting feature of exchange rate determination is the fact that rates are not determined by the balance of trade or payments. The day has long passed when a textbook-type analysis based upon Purchasing Power Parity or any other payments structure based upon the flow of trade had any influence upon the exchange rate. Capital markets and the movement of capital on a daily basis are now the principal exchange rate determinants.

Another effect to be considered along with the slope of the CM_f relation is interest rate expectations which are subject to continuous revision. It will be recognised at once that herein lies the greatest source of instability in the entire system of foreign exchange rate determination. We can see this in Figure 8.7 by changing the sign of $r - r^*$ so that expectations of a rise in interest rates follow a fall, and conversely, expectations of a fall follow a rise. Many of these expectations derive from the assumed policies of the monetary authorities. Suppose that falling rates (r_1 back to r_0) are accompanied

by expected increases (r_0* to r_1*) shortly thereafter. Further, suppose that governments intend to reduce the foreign exchange rate of their currency and encourage domestic investment. Since capital values are expected to fall, after an initial rise, investors will avoid foreign bonds in the aftermarkets and sales of such bonds will result in the market's movement upward (or leftward) on the CM_f relation as exchange rates decline. This will enhance the governments' intentions and result in an overshoot. Similarly, an expected fall in interest rates after an initial rise will encourage the purchase of bonds in the aftermarket in anticipation of rising capital values, thereby enhancing the effect of the initial interest rate increase. An overshoot in the other direction will likely occur as a result of expectations in the aftermarket.

The difficulty and the complexity of the task facing governments or their appropriate agencies in devising an interest rate policy can be readily identified by placing Figure 8.7 back-to-back with Figure 8.4 (in the manner suggested in Chapter 6) so that they share the common axis, interest. This is shown in Figure 8.8, the final figure of this analysis.

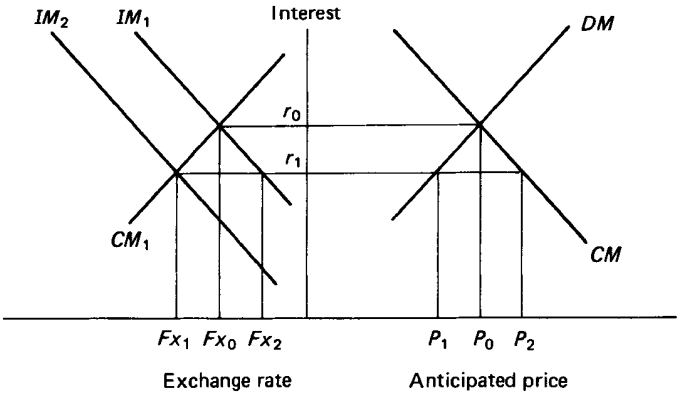


Figure 8.8 Relationships of inflation, interest, and exchange rates

Suppose an equilibrium rate of interest, r_0, exists in which all four markets (actually three markets plus the functional relation *IM*) are in equilibrium. Monetary policy dictates that interest rates be set below this interest rate, at r_1. This would be, presumably, for the purpose of stimulating employment in the domestic real economy. Such a rate would be the equivalent of higher values of the marginal product of capital (or higher rates of inflation), sliding down the *CM*, *IM*, and

CM_f relations as capital values rise in both domestic and foreign exchange markets.

Clearly there will no longer be sufficient funds, or liquidity, forthcoming from the domestic Deposit Market, DM, to sustain the increased demand, because such a low interest rate must have a very much lower anticipated price, P_1, to be in equilibrium. Business investment, however, in the Credit Market will demand investment funds *as if* anticipated prices equal to P_2 held in the market for goods. Obviously the government concerned has no alternative but to expand the supply of funds to supplement those inadequate funds coming forth from the Deposit Market.

But what will the foreign exchange rate be under such conditions? We cannot be sure because market equilibrium in the aftermarkets, CM_f, require an interest rate higher than r_1 if the CM_f relation is elastic when market expectations are for rates to fall still further ($r - r^* = +$) and capital gains are expected. On the other hand, lower exchange rates might result especially if the IM function is elastic and the CM_f relation is inelastic. The actual equilibrium exchange rate will depend upon the relative strength, or elasticities in the case of the diagram analysis, of the investment market vs. the expected capital values in the aftermarket. In this case, government interference in setting interest rates has opened a Pandora's box of unknown market reaction in the foreign exchange market.

We may speculate, however, on what may well occur after the immediate market reaction, especially in the case of the US dollar. There could well be a shift leftward of the IM function, from IM_1 to IM_2, to identify a new equilibrium point in the foreign market. This leftward shift would be the consequence of other countries lowering their interest rates. A general realignment of interest rates in this fashion could mean that the market for foreign funds would likely adjust relatively quickly to the new and lower level of the interest rate, with an appreciated rather than a depreciated exchange rate for the US dollar.

Of course, the situation is further complicated by the likelihood of the occurrence of further anticipated domestic price increases, the consequence of inflation. These would result in a shift in the CM relation rightward (not shown in Figure 8.8) as new and higher price levels assert themselves along with the same interest rates held constant by the government.

In addition, the inflation transmission mechanism from country to country can be further identified in a world of flexible exchange rates.

An appreciation of the exchange rate along the CM_f line, when capital values are expected to rise with further lower rates ($r - r^* = +$), exports inflation as efficiently as a fixed exchange rate. Imports from the inflating country become more expensive, and when that country is the United States, the US dollar as the world's reserve currency makes import contracts written in dollars relatively more expensive.

The only feasible method for any other country to counteract this import price increase is to permit inflation of its own currency through a general rise in its domestic price and income levels. Import substitution is no longer so readily achieved in a world consisting of interdependent countries. A government's setting, or even influencing, interest rates has created more difficulties, especially in the foreign sector, than it purports to solve.[8]

This does not prove, however, that the free market left to itself would achieve stability in both the domestic markets and the foreign markets, and it is to this possibility that we turn next.

An arbitrary interest rate above r_0 means that the domestic Deposit Market is earning excessive real interest rewards so long as interest rate levels are high and the corresponding price levels, P, lie to the left of the equilibrium DM relation. There are then only two possibilities: a shift rightward of the CM relation which can only result from an increase in the values of the marginal product – in other words, price increases; or a shift downward of the rate of interest. Of the two, it is more likely that a downward shift in interest will occur, for the reason that a surplus of funds in the Deposit Market will depress the price of funds in the Credit Market (interest) faster than prices of goods can rise to a level high enough to utilise the surplus funds.

In the foreign markets, excessive interest rates (higher than r_0) will result in an inflow of foreign funds for investment purposes on the IM function, in amounts larger than can be utilised. This should depress interest rates and lower exchange rates on that function.

In terms of the aftermarket, CM_f, capital values of foreign currency investments are lower when interest rates are above r_0, hence the possibility of capital gains exists through a fall in the interest rates. This would come about either through the increase in the value of Eurobonds, etc., higher values of the exchange rate, or, more likely, a combination of both. Speculation as to the correct market level for the interest rate and exchange rate in the foreign sector would therefore develop to depress the interest rate and restore capital values in the foreign sector.

Similarly, interest rates which happen to be below r_0 can find their

equilibrium level in the domestic market due to a shortage of liquidity from the Deposit Market relative to the excess demand in the Credit Market. In the foreign investment market, little in the way of funds would be forthcoming since the interest rate is less than what it should be. Capital values, on the other hand, would be high in the aftermarket and ordinary expectations would be that they are excessive (interest is too low). The consequence would be that profit-taking should take place and selling pressure develop to lower the CM_f market exchange rate and raise the interest rate to increase the exchange rate for that market. Eventually, an equilibrium interest rate between both markets would be reached.

It would appear, therefore, that stability in terms of equilibrium in the financial market relating the exchange rate, interest, and the domestic price level would in fact exist under free market conditions. Such an equilibrium would be relatively quick in asserting itself in the event of deviations from any equilibrium levels, for the reason that capital movements are both swift and in large volume and react quickly to profit opportunities.

THE NEEDS OF THE 'REAL' ECONOMY AND THE MONETARY SYSTEM

It is likely that the problems attendant upon the financial markets, both domestic and foreign, do not lie with inadequate functioning of these markets at all but with the 'real' economies of those countries which are unable to achieve full employment with domestic price stability. We have, first, the massive government deficits which arise from excessive government expenditure relative to taxation. This creates an ever-growing national debt which must be financed by a growing amount of debt instruments, which, in turn, must compete for relatively limited supplies of savings in the domestic capital markets. Rising domestic interest rates follow because of the growth of this competition between the public and private sectors for real savings. Such rising rates must exist in the form of a long-term upward trend along the *DM* relation as the *CM* relation shifts rightward at the same time that inflationary price increases appear. Such price increases are inevitable because of the huge and growing deficits.

Second, superimposed upon this trend are monetary policies of the central banks. The necessity for these is the result of decisions taken by governments to bring to a halt the long-term inflation which has

developed because of rising budget deficits. We should recognise that the so-called 'fiscal policy' of Keynesian economics, whereby deficits would be reduced during periods of inflation or threatened inflation and increased during periods of deflation, has become effectively sterile because of the practical inability to bring down deficits. This forces public authorities to rely on monetary policy, which means 'tight money', to check rising price levels.[9]

Third, considering that rising anticipated prices, the horizontal axis in Figure 8.8, arise from the twin conditions of (i) successive and growing government deficits and (ii) the necessity to increase the money supply so as to maintain reasonably low interest rates, the *CM* relation must continuously shift rightward. Attempts to check inflation must therefore be accompanied by substantial increases in money interest rates so as to produce positive real interest rates, i.e. money rates to the left of the *DM* relation. This 'squeezes' the banking and financial system into a structural pattern subordinate to the 'real' economy and necessarily in conflict with the logic of its own independent structure. Continuous rightward shifts of the *CM* relation, with rising prices and interest rates held down by government intervention, mean that an attempt on the part of the banking system to reach equilibrium via the Deposit Market becomes more difficult since the spread between the two equlibria broadens continuously.

Fourth, equilibrium between the foreign exchange rate and the interest rate becomes even more difficult because of the two opposite influences, the *IM* functional relationship and the CM_f relation. For financial 'superpowers', an influx of capital will likely follow an interest rate increase, causing an appreciation of the exchange rate. However, the aftermarket, the CM_f line, will tend to seek equilibrium at lower exchange rates because of the tendency for bond-buyers to refrain from buying when capital values in the market are falling ($r - r^* = -$). Most important, the further away are actual interest rates from the equilibrium rate of the CM_f relation and *IM* function the less will be the possibility of any equilibrium in the foreign exchange markets.

Like the domestic relations, the foreign sector relation and the investment function 'spread apart' as interest rates increase. Which will be the dominant force in the market for foreign exchange depends entirely upon such factors as already mentioned: i.e. elasticity, the significance of the currency amongst all world currencies, the importance of the country's capital market for investment purposes, etc. – in other words, the relative strength of the direct investment market

against the aftermarket with its expectations of future interest rate movements. As such factors tend to change in relative importance, either the *IM* function or the CM_f relation, depending upon which is more elastic, will assume dominance and the exchange rate will fluctuate accordingly.

Once more the strains placed on the world's banking system as a result of a government's interference in the system become considerable, though here the major problems lie in the foreign operations of the banks. Whereas bankruptcies and forced liquidation of banks can result from an abrupt change in public policy in the domestic area as banks scramble to attract high-cost funds from the Deposit Market, in the foreign sector, loans to foreign countries will pose enormous liquidity problems to the lending banks when interest rates in the lending country are rising.

Rising rates, we recall, derive from the banking system's forced restructuring of liquidity towards the intersection of the *CM* relation and the *DM* relation as the central bank, as a matter of policy, refrains from supplying additional liquidity to its banking system. For countries such as the United States, this will likely mean rising foreign exchange values of the US dollar as foreign capital flows into the country from foreign sources (the *IM* functional relation). The repayment of previously incurred foreign bank debt by foreign countries under such conditions becomes extremely difficult, because of the combination of both a high valued US dollar and the new higher interest rates as foreign debt falls due for payment or refinancing. As foreign borrowers attempt to extend their debt, the banks find themselves with the dilemma of financing longer-term debt with ever-shorter-term deposits. This poses the first general set of foreign sector problems for the banking system.

A second set of problems lies in the growing spread between the CM_f relation and the *IM* function. As a collapse of the market values of foreign assets comes closer to reality, the greater the spread between the two becomes. Quite simply, banks discover that their foreign assets are not worth as much as they were when the foreign loans were originally made. This could be due to either the collapse of foreign values in foreign countries or, as Figure 8.8 suggests, the collapse of the foreign exchange value of the borrowing country's currency in the foreign exchange markets.

The problem would not be so severe if foreign borrowers could pay their obligations as they fall due, but such, of course, is not the case. Under any circumstances – i.e. even if payments for foreign loans were

made regularly – loans and investments made formerly with a high valued currency must create intermediation problems for the banks when deposits must now be honoured in a relatively higher valued currency, relative, that is, to the depreciating currency of the debtor country.

We would argue that the banks' difficulties, as evident in the many bank failures in North America, can be accounted for by these two general problem areas. They arise because of the increasing divergence of two sets of equilibrium conditions which are mutual opposites. The first is the higher interest rate which follows from the necessity to attract deposits from US Deposit Markets, and the second is an appreciating US dollar which makes it impossible for foreign borrowers to meet their obligations. It is the function of the banking system to intermediate between these two opposing conditions, but under the circumstances of government intervention on the one hand and the economic reality of inflation/recession on the other, an efficient intermediation function becomes nearly impossible.

Governments, in the interest of the economic welfare (however defined) of its people, attempt to maintain lower than market interest rates, faithfully following Keynesian principles set forth a half-century ago. When inflation threatens, these same governments no longer expand the monetary base of their economies quite so rapidly, forcing the banking system towards its free market orientation. This presents intolerable problems within the two financial sectors, domestic and foreign. In the domestic sector, interest rates rise towards an equilibrium level, the intersection of the *CM* relation and the *DM* relation. In the foreign sector, higher interest rates move *away* from the equilibrium between the foreign exchange rate and the interest rate which was determined by the lower interest rate previously set by the monetary authorities.

The remarkable feature of the modern Anglo-American banking system is that the banks accept their position of secondary importance in the economy with little or no objection. Even more, bankers appear to prefer the security of a banking system under centralised control despite the constraints placed upon them by their central bank. No objection is raised by them to what must be clear violations of sound banking principles when policies determined by monetary authorities are set forth.

One also has a strong suspicion that bankers prefer a relatively risk-free existence, satisfying the Credit Market with liquidity supplied largely by the monetary authority without the onus of having to

acquire such liquidities from the Deposit Market.[10] The process of equating these two markets, as would be necessary, for instance, in the case of the gold standard, can be both difficult and risk-prone. It requires true intermediation to call forth the savings of the public into the liquid funds required by the investing community. At the present time it is inflation, the consequence of both fiscal deficits and monetary expansion, which transfers the real wealth of the savings community into both investment and the financing of government expenditure. Bankers are 'allies', albeit unwitting, in this unfortunate process.

In the foreign sector, the foreign exchange rates are determined by the flows of foreign capital both directly via the direct investment (*IM*) function and indirectly via the aftermarket (CM_f). The value of the foreign exchange rate has its impact on the 'real' economy by means of the balance of trade, stimulating exports or imports according to the exchange rate *vis-à-vis* that of other countries. Employment in those industries with large foreign markets will depend upon the rate itself.

This brings out the important point that the international community of real economies can hardly expect exchange rate stability so long as (i) each government pursues its own economic policy independent of any other, and (ii) the banking system is not free to find its equilibrium in terms of interest rates, the inflation rate, and exchange rates. Everything pivots on the government's deciding upon the interest rates, and once these are determined, the rest fall into line – a kind of tail-wags-dog system. This is particularly true for those 'inflating countries' which have very high government deficits and which continuously pump additional purchasing power into their economies to finance these deficits.

SWISS BANKS AND CREDIT MARKETS

Enough discussion has already preceded this chapter for the conclusion to be reached that Swiss banks are not under the same pressure to serve the real economy of their country at the expense of their own industry. We do not find interest rates being determined by either the Federal Government or the National Bank in the manner of the Anglo-American systems. Indeed, the National Bank specifically repudiates both the interest rate and the exchange rate of the franc as appropriate monetary targets, preferring instead the target of a stable money supply.[11] This has an important result for the Swiss banks.

To begin with, the National Bank does not finance government

deficits nor does it participate in the funding of Treasury Bills in the same way as its Anglo-American counterparts. It scrupulously avoids this danger, for the obvious reason that the money supply can and probably will run out of control. It concentrates instead on foreign exchange holdings as its primary monetary control mechanism. Under such circumstances, the Swiss paradigm is very different from that of the 'inflating countries'. Figure 8.9 suggests this.

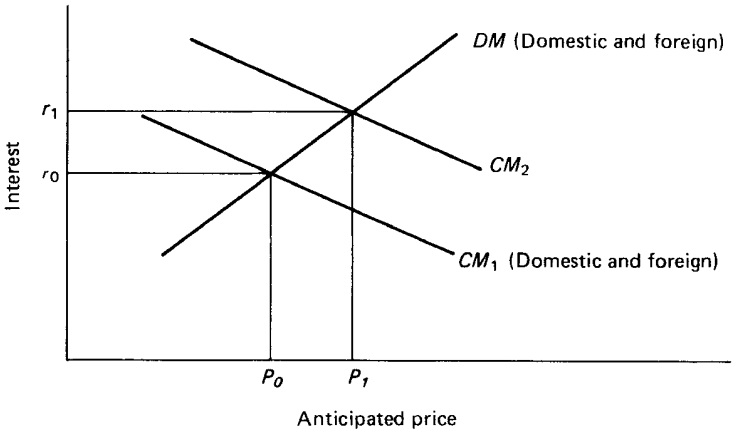


Figure 8.9 The Swiss paradigm

The Swiss National Bank concentrates on a single objective – its maintenance of a stable price level at P_0. To achieve this the Bank does not permit the monetary base to vary beyond the assigned limits. This is tantamount to holding the price level, P, at a level which is determined by the intersection of the DM and CM equilibrium relations. Swiss banks must, in other words, find the necessary funds to satisfy the Credit Market from their own Deposit Market, intermediating between them. There cannot be monetary expansion, as in the case of the 'inflating countries', to satisfy the Credit Market at lower interest rates.

In the event that a higher real value of the marginal product of capital appears – say, a shift from CM_1 to CM_2 – or that prices show rising tendencies due to imported inflation, higher domestic interest rates would be necessary, for the obvious reason that a shift upward along the DM relation must occur. Interest rates would rise to r_2. But this is precisely as would be expected under the circumstances, for the objective of the National Bank is not to control interest rate movements but to maintain stable prices. Most important is the fact

that upward shifts in the price level due to higher marginal products of capital arise because the price mechanism is performing its task of attracting productive resources to those areas where they are most needed.

The function of government, in the Swiss case, is thus seen to be non-interference in the activity of the financial community, as opposed to the Anglo-American system of setting or influencing interest rates, thereby forcing the banking and financial sector into the secondary role of passing on liquidity made available to it by the central bank. In actual fact, the avowed purpose of the National Bank, stability of the price level, does not much exceed the function of a gold standard, because price stability is accomplished by restricting the growth of the money supply via control of the monetary base. This was precisely the purpose of the gold standard and why it was so successful for a thousand years. We would argue that this 'hands off' approach on the part of the National Bank is fundamental to the success of Swiss domestic banking.[12]

Of far greater significance to the Swiss banker is the concern over the gradual encroachment of the public sector into the area which has traditionally been that of the banker. To a certain degree, this is shared by other countries. Public pension funds, social insurance, public enterprise, etc. have grown to such a degree that the traditional Deposit Market has been pushed back by the state. The incentives to save for retirement are reduced by social security, and the welfare safety net reduces the 'rainy day' incentive for saving. This greatly alters the liquidity structure of the public, and both the slope and the position of the Deposit Market are changed. To bankers, these are very important, because what is likely to be the most stable major source of illiquid deposits in Switzerland, as elsewhere – the retail deposits – are substantially less than what they ordinarily would be.

Another factor of primary importance to Swiss banks is the fact that the public sector has assumed primary responsibility for the direction of the economy, not just in the matter of interest rates, etc. but in terms of the volume of wealth controlled by it. Regardless of the fact that public enterprises, for instance, may be 'non-bankable', in the sense that ordinary profits may not exist, the government proceeds on the criterion that the public welfare is being served and, therefore, cash surpluses (or 'profits') are not at all necessary. Under such circumstances, the government administers the public's investment without reference to the ordinary measures of economic feasibility which apply to the private sector. Considering that only a given amount of wealth is

available at any moment, the growing public sector's activity means that the banks are continuously being pressed into an ever-narrowing private sector finance. Again this is not a circumstance confined to Switzerland; in fact, the Swiss universal bank is likely to feel much less restricted by the growing public sector than banks of the cantons and those of other countries. Nevertheless, the Swiss banks are concerned about the ever-growing dominance of the public sector in their economy.

FOREIGN BANKING

It is in the area of foreign banking, however, that Swiss banks have enjoyed, justly, their worldwide reputation. Here there is no government to assist them even if they wished for assistance.

We recall that Swiss banking distinguishes sharply between foreign and domestic banking activity. This is essential, for the obvious reason that, were there no distinction, foreign funds could enter the Swiss economy to expand the domestic money supply. This would, of course, be inflationary. Foreign activity, therefore, means attracting foreign funds into the Swiss foreign 'system' then spinning them off (like a turntable) into the areas of the world where investments are appropriate. While simple enough to state, such activity is extremely complex and requires the very best of knowledge of the economic activity in foreign countries as well as necessary banking skills which are appropriate to the foreign country.

Swiss banks acquire funds in foreign currencies, hence they have one of the most developed foreign currency markets in the world. The funds so acquired are in the form of a foreign Deposit Market. These funds are not so much a result of higher interest rates in the Swiss foreign banking sector as they are the result of a relative security, i.e. a lack of security in the foreign country's domestic banking systems relative to that of the Swiss. The banks are, in effect, brokers who can make these foreign deposits available for lending as foreign funds to a foreign Credit Market or to a 'Liquid Asset Market' in the foreign sector.

Suppose the foreign currency happens to be the US dollar. Swiss banks acquire these accounts from customers and immediately use some for the purchase of liquid assets as reserves. The balance will be used as loans for projects in various countries.

Banks will structure their assets in such a way that an equilibrium

exists between the foreign currency deposit market and their loan market, and this equilibrium must be by way of both capital values (via interest rates) and foreign exchange values. This is essential because their deposit liabilities (as far as the Swiss are concerned) must be honoured in the currency of origin. The liquid assets are available for this purpose and must be able to be readily sold at a market price, whilst loan assets will not be available until the loan obligation period for the borrowers is up.

Suppose the United States, in its desire to curb inflationary pressures, should permit interest rates to rise as a result of a tight money policy. This would react immediately in the form of a corresponding increase in interest rates in the Euro-dollar markets, and a collapse of capital values for liquid assets might result, depending upon expectations of future interest rates. But we cannot be absolutely sure of the effect on the exchange rate because an inflow of foreign currencies into the United States (the world's reserve currency) in response to higher interest rates might increase the value of the US dollar. On the other hand, a collapse of capital values in Euro-markets might result in lower exchange rates of the US dollar. Thus, to protect the value of his dollar liquid assets (hence the value of his deposit obligations), the Swiss banker must be prepared to shift into other currency assets whenever the dollar exchange rate shows signs of weakening – not an easy task.

Protecting values of liquid assets in foreign currencies is difficult at best; at the same time, however, the loans *themselves* must be sufficiently sound to provide their own measure of liquidity. Suppose that Swiss bank loans to foreign countries, utilising their US dollar accounts, cannot be repaid when due. The liquidity of the Swiss banks in terms of foreign currencies could be seriously impaired because the liquid assets in foreign currency holdings may no longer be adequate. This could be especially true in the event that high interest rates precipitate a fall in the foreign exchange value of the dollar. It would, in fact, be necessary to move quickly out of the dollar into a stronger currency *before* the dollar collapses in value.

The task, therefore, of the Swiss banker in the foreign 'turntable' is not a simple one. For the fiduciary deposit accounts, those accounts for which the banker accepts no responsibility, the business of investing other people's money is likely to be somewhat easier. Nevertheless, it can be easily understood why the senior staff of Swiss banks are not only accomplished linguists but also skilled in the art of distinguishing between risk-prone foreign investments and those which are safe.

Other people's money is what these bankers work with and, unlike their Anglo-American counterparts, they do not have liquidity assistance from their governments in the form of Deposit Insurance or from central bank reserve.

CONCLUSION

There are some conclusions reached in the preceding pages of this chapter which are worth re-stating. In those countries referred to as the 'inflating countries', notably Great Britain and the United States, a Keynesian tradition has predominated over the past fifty years. This tradition has embraced not just fiscal policies which have, in recent years, resulted in almost continuous deficit financing, but also monetary policy. Such monetary policies in these countries have meant the maintenance of interest rates which were generally lower than would have otherwise obtained under purely free market conditions. In order to accomplish this, continuous monetary expansion has been necessary.

In actual fact, we know that monetary expansion originates from the fiscal deficits themselves. When monetary growth is unchecked by such measures as open market operations, the result is the continuous inflationary tendencies we have been experiencing.

The fiscal and monetary policies appear to have resulted from a genuine, though perhaps excessive, concern with relieving unemployment. Focusing attention on the 'real' economic problems in this way has meant that the monetary and banking systems have become an instrument of policy. The policy itself has been determined by both politicians and the electorate, alternating between the extremes of those who believe that the economy is the sole responsibility of the governments, on the one hand, and those who hold more rigidly to the principles of economic liberalism.

Sound banking principles, such as the fact that interest must be the payment to the Deposit Market for liquidity forgone and should ultimately be paid by those in the Credit Market who desire that liquidity (an intersection point of the *DM* and *CM* relations), have been neglected in the pursuit of other objectives. It would appear that the banking system itself has acquiesced in this state of affairs without protest or with little attempt at pointing out the consequences.

Ultimately, it is inevitable that the expansion of national debt must lead to inflationary pressures in the economy. Holders of national debt

find that their bonds constitute near-liquid purchasing power and that these may be readily converted into actual liquidity at any time in the bond market. Since there is relatively little additional wealth created by national debt, it is inevitable that the pressure of demand will grow against a limited capacity of resources to produce. Say what we like, it is not the enormous expansion of Euro-currencies over the past few years nor is it the oil price increases of the early 1970s which have pushed prices higher in the 'inflating countries', but rather our own futile attempts to acquire more real wealth than the capacities of our economies can produce. The success of the tight money policies which have reduced inflation rates in the 'inflating' countries to near zero levels from the double digit levels at the beginning of the 1980s must prove the reality of banking principles as a force in economics. Furthermore, the *fact* of inflation suggests that governments (i) following Keynesian policies of full employment and (ii) either ignoring sound banking principles or enlisting the services of bankers to carry out these policies have been at the root of the inflation disease.

To be sure, the success of the Swiss banking system may well be the result of the failure of governments and banking systems elsewhere. Capital flees inflation, crippling taxation, and excessive government regulation. Thus the Swiss may well have benefited as much from the negative financial philosophies of other countries as from their own more positive attitude. Nevertheless, the fact remains that the Swiss government has not relegated its banks to second-class status; quite the contrary, the Swiss Banking Law maintains the integrity of banks and requires that they uphold the highest standards and principles. This means that instead of Swiss banks being an instrument of economic policy, they are, rather, the policy itself – Socialist attempts to alter their status notwithstanding. This is why, in the final analysis, the Swiss banking paradigm is so different from that of the Anglo-American systems.

Part III

A World of Financial Instability

9 International Liquidity and Capital Markets

THE BANK FOR INTERNATIONAL SETTLEMENTS

It is rare that the world is presented with an opportunity to have an institution already existing, in place and available, just when it is needed. Such is the Bank for International Settlements. While it was originally conceived to serve a specific purpose which grew out of the unfortunate circumstances following The First World War, it not only remains in existence but it is also serving the world banking community long after its primary function has ceased.

In retrospect, it is almost inconceivable that rational people in positions of power could have imposed war reparations on a nation that had suffered enormous hardships accompanying the circumstances of defeat, yet so structure their *own* economic affairs that those same reparations were impossible to meet. Such apparently was the rather primitive understanding of economics, economic circumstances and the processes surrounding the Treaty of Versailles and the events which ensued. Improbable as it might seem, the prestigious BIS was founded in those irrational times.

What is most interesting, from our particular point of view, is the emphasis laid by the framers of the Treaty on monetarism and the monetary illusion to the exclusion of the real economy – an almost complete inversion from the situation prevailing in our own time. Professor Papi, writing shortly after The Second World War – and looking back into the history of the period, was himself impressed with the apparent inability of the designers of the Treaty to escape from their 'monetary illusion'.[1]

Today we might consider this illusion as almost approaching the level of a mystique – a kind of irrational faith in money as wealth despite the impeccable logic of Adam Smith a century and a half earlier. Thus, while the situation in central Europe at the time was characterised by a collapse in productive power, unemployment, food scarcities, disrupted trade relations, and, above all, an inflation situation which stemmed from the over-issue of paper currency during the war, the political leaders of the victorious powers *still* expected war reparations to be met in the form of money.

Papi quotes from the *Chase Economic Bulletin* (5 October 1920). He notes that European indebtedness to the USA was estimated to be $3½ billion. At the same time that the USA had a deficit in its balance of payments with the rest of the world (apart from Europe) financed by shipments of gold and silver, it had a *surplus* in its balance of payments with Europe. For Europe, therefore, earning the wherewithal to meet its monetary obligations was utterly impossible. The monetary illusion (to the exclusion of the real economy) was absolutely complete.

The anomaly became even more absurd a decade later with the passage of the Smoot-Hawley tariff – the highest tariff in the history of the United States. This made European exports to the USA an impossibility, yet Europe was expected to maintain payments of gold or US dollars for the war debt. Thus, in a manner somewhat similar to the overconcentration of attention on the real economy today to the exclusion of the monetary system, which we might dub a 'real illusion', attention at that time was occupied with the processes of purely monetary payments and the methods of effecting them, without consideration of the means by which the funds for those payments might be earned. It was during that unfortunate era that the Bank for International Settlements came into existence.

It is true that both the Dawes and Young Plans, which established the Bank for International Settlements, were evidence of an awakening to the realities of economics. Reparations were reduced and the means of future payment were established via the new Bank. In both cases the world is indebted to J.M. Keynes for his incisive analysis of precisely why Germany's war debts could not be met – a first lesson in economic principles. Nevertheless, the conditions and specifications under which the Bank was founded demonstrate clearly the confused belief that money, especially gold, constitutes wealth, a sad commentary on the state of economics.

While German war reparations, their collection and distribution, were the primary function of the newly founded Bank, the responsibility of restoring and maintaining the gold standard was also included in its mandate. So, given the fact that war reparations were actually met from loans from the United States, in accordance with the Dawes and Young Plans, in the last analysis the only substantive contribution of the BIS was the encouragement of sound monetary systems among the countries of central Europe. It is this latter objective of the Bank which has remained intact to this day, and which is being accomplished not by coercion but by gentle persuasion combined with close co-operation between the central banks of the various member countries and the BIS itself.

THE BIS, A NEW PHASE

During the period of the 1930s, the 'beginning' of the Keynesian era, Monetarism and the Quantity Theory of Money as conceived by both Fisher and Pigou reached its nadir. 'Real' economics, later to become manifest in the form of macroeconomics, had displaced Monetarism principally because the Great Depression, its causes and solutions, had absorbed the attention of economists and politicians. Monetarism held no solutions to the immense problems of that sad era. Money, the gold standard, and the principles of sound money were historical oddities during a period when nations were leaving the gold standard. Inconvertible paper and a flexible money supply, the degree of flexibility to be determined by governments and monetary authorities, were in fashion.

It is to the credit of the BIS at the time that the economic philosophy of the Bank during the era of the 1930s did not reflect this general trend. It is best expressed by a direct quotation from the Bank's Fifth Annual Report. In an answer to the rhetorical question, 'why co-operate?', the Bank had this to say:

> The basic task of all central banks is essentially the same – to regulate the volume of credit and currency with a view to lessening pronounced fluctuations in business activity, and to follow a policy designed to maintain fundamental equilibrium in the balance of payments. Since the technical tasks of central banks are generally similar, it would seem only reasonable to suppose that the various national central banks could learn from the experience of one another. Furthermore, and this may be even more important, credit and monetary policy will, through its effect on the balance of payments, affect the policy of other countries just as the condition in the home country will be affected by the actions of central banks abroad. While it may not always be possible to reconcile all of the objectives and policies of a particular central bank with those of other central banks, it should be possible through formal or informal cooperation to avoid economic warfare between them.[2]

It is difficult to imagine that these sentences were written during an era of high tariffs, currency depreciation, and fiscal and monetary policies which attempted to follow the prescriptions of Keynes. Thus, contrary to the spirit and thinking of the time, the BIS was holding fast to a monetary tradition established long before and generally dis-

credited. There is a difference, though. There is no 'mystique' in the BIS's monetarism – only rational, sound thinking behind its recommendations. Indeed, there is also a forward view here, in the sense that the concept of co-operation among central banks is as modern as today.

It is curious that the Bretton Woods Conference actually entertained a motion to abolish the BIS. While it is not clear precisely why this was done, the substantive differences between the IMF and the BIS, in philosophical terms, is clear.[3] In the paragraph quoted above, the broad range of vision of the Bank embraced a measure of co-operation among nations in terms of monetary policy. The IMF, on the other hand, with its tranche borrowings, focused its attention on the maintenance of fixed exchange rates. This, within the original framework of the IMF, was the only really necessary measure of international co-operation. Economic policies, both fiscal and monetary, were seen by the IMF as the responsibility of each member nation managing its own domestic economic affairs in accordance with the new macroeconomic principles. The idea of international co-operation among nations in such policies, the BIS logic, was not part of the Bretton Woods thinking. Fixed exchange rates seemed to be all that mattered.

With the forming of the European Monetary System, the BIS assumed the important role of the central bank for all of the European central banks. This not only assured the BIS of permanency as an institution, but it also gave it the prestige which it required. The function of settling accounts between central banks, the original members of the European Payments Union, means that the BIS can act in a more strategic and important advisory capacity than it did in the past. In the last analysis it is this which gives the BIS the immense prestige which it enjoys today.

But the principles of sound money have not just sprung into existence in recent years. As long ago as 1933, at the London Conference, the BIS clearly enunciated the underlying six fundamentals of the gold standard at a time when European nations had already gone off the gold standard or were in the process of doing so. Far from being a backward, conservative philosophy, the six fundamentals represent a statement of principles applicable under any condition at any time. They are worth careful review.

(1) The functioning of the gold standard requires the adoption by each central bank of a policy designed to maintain a fundamental equilibrium in the balance of payments.

(The 'policy' referred to here has reference to a credit policy, i.e. to what extent credit should be permitted to expand whenever gold payments flow into a country in payment for a surplus of exports. In addition, the exchange rate of a country should not be adjusted by the central bank with the objective of stimulating export industries and thereby exporting unemployment. Certainly gold movements should not be cushioned so as to avoid having an impact on the credit structure of a country.)

(2) Gold movements, as far as they seem to be of a more permanent character, should not be prevented from making their influence felt.

(3) While gold should be free to flow into and out of the countries concerned, the central banks should be prepared to buy gold at a publicly announced fixed price, as expressed in their currency, and to sell gold at a publicly announced fixed price. In effect, this assures a fixed exchange rate between countries.

(4) Central banks should obtain from their markets the fullest possible information concerning the demands that might be made on their reserves.

(5) Since, as already stated under (1), the proper functioning of the gold standard requires a fundamental equilibrium in the balance of payments, the discretion of each central bank in regulating the gold standard would remain unimpaired. The central bank should recognise, however, that in addition to their national task, they have always to fulfil a task of an international character. (This principle was clearly directed towards the United States which, at the time, had accumulated most of the world's gold. In the final analysis, the lack of co-operation among nations and their central banks must remain as the major factor in bringing about the end of the system.)

(6) With a view to arriving at an agreed interpretation of the data, central banks should consult together continuously in case of a difference of opinion, with each central bank acting in its own judgement of the situation.[4]

This 'consultation principle' was, and continues to be, the *modus operandi* of the BIS. There are no pressures, just discussion, argument and persuasion, to influence sovereign central banks. At the same time, one cannot accept that these principles are purely passive in nature. Central banks are enjoined to take active measures in the conduct of their affairs, and certainly the sixth principle assures any country that it does not live in an isolationist world. The Hawley-

Smoot tariff would have been impossible had these principles been adopted by the United States. Similarly, the massive deposit withdrawals which precipitated the crash of the Credit-Anstalt in Vienna at the beginning of the Great Depression would likely have been averted.

It would be foolish to argue that the Great Depression and the stock market crash of 1929 which preceded it could have been averted had the BIS's six principles been enunciated earlier. The roots of that catastrophe lay far too deep in economic grounds for any single institution to have had any significant impact. We can, however, assert that the spirit of co-operation among nations regarding exchange rates and the necessity for equilibrium in the balance of payments which were central to the Bank's principles, would have made the export of unemployment and the famous 'beggar thy neighbour' depression philosophy impossible.

But the important function of the BIS was yet to come, long after the years of monetary illusion and the Depression which followed had been forgotten. Its function as a major influence in economic affairs lay in a very different context.

A CENTRAL BANKER'S BANK

The gold standard has no effective meaning today, but it has been replaced by something else of equal importance – foreign assets and liabilities of the banking systems. Banks make loans and collect deposits outside the borders of their own countres; they loan foreign deposits from their own currencies, and they sometimes (not always) utilise the services of Euro-banks as intermediaries. In all cases their activities lie outside the jurisdiction of their own countries, hence are subject to no regulation or requirements for compulsory statistical information.

Almost as an extension of the six principles, the BIS has accepted responsibility for informational reporting on the foreign activities of banks and renders appropriate advice in its massive annual reports. Indeed, there is no better source of information in the world for the foreign activities of banks than these reports.

In preparing its analyses, the BIS combines the foreign assets and liabilities of its reporting members to arrive at the totals which, even allowing for double counting, are enormous. Consider Table 9.1. It is the cumulative values over the years of total international bank lending (for the banks reporting to the BIS) which is surprising – 2 153 billion in terms of US dollars in loans is a large sum, and even after

allowing for redepositing (to avoid double counting) the figure is still large, 1 265 billions.

Table 9.1 Changes in external claims of banks and international bond issues[5] (billions of US dollars)

	1980	*1981*	*1982*	*1983*	*1984*	*Stock*
Total international lending of reporting banks	241.1	264.8	180.3	105.2	125.4	2153.2
less: double counting	81.1	99.8	85.3	20.2	40.4	888.2
Net international lending	160.0	165.0	95.0	85.0	85.0	1265.0
Euro-bond and foreign issues	39.4	49.0	71.7	73.5	107.7	
less: redemptions	11.4	12.5	13.2	14.5	23.7	
Net international bonds	28.0	36.5	58.5	59.0	84.0	410.0
Total bank and bond finance	188.0	201.5	153.5	144.0	169.0	1675.0
less: doubling counting	8.0	6.5	8.5	14.0	24.0	85.0
Total net bank and bonds	180.0	195.0	145.0	130.0	145.0	1590.0

Reporting banks include banks in the Group of Ten countries plus Luxembourg, Austria, Denmark and Ireland. Since 1984 the list was expanded to include banks in Finland, Norway and Spain. Off-shore banks in the Bahamas, Panama, Hong Kong and Singapore are also included.
Source: BIS Annual Report, 1985, p. 110.

It is the sheer magnitude of the stock of lending which many, expecting the worst, have found so disturbing. It is this value which, so some have argued, is responsible for the worldwide inflationary threat.

Such concern is unfounded. As was argued in Chapter 7, external bank lending is for specific purposes – for example, to expand plant and equipment, infrastructure, etc. All this depends upon the demand for, and the value of, the final product of investment. This final demand must arise from within the borrowing country itself or from its exporting potential; hence the consumers of the borrowing country's production must determine the investment activity to be financed by foreign borrowing. This does not eliminate the possibility of unwise use of borrowed funds, say, for supporting balance of payments deficits, or even enriching local officials. But such uses are not the responsibility of the lending bank, and any inflationary pressures which might arise are due to the ill-usage of the resources which the funds command and not to the existence of the funds themselves.

What the high levels of foreign borrowing, both via banks and the Euro-bond markets, do imply is that investment is no longer a national but an international phenomenon. This is why it is no longer possible to curb national investment so as to follow a domestic anti-inflation policy using high domestic interest rates. Potential borrowers will seek

cheaper funds from international markets which are now readily available.

What about the opposite objective, domestic employment stimulation via lower interest rates? Can such a policy be followed by a single country on its own? This would entail the banking system's making additional funds available to the Credit Market at lower rates, and this may also be difficult because deposit lenders may prefer to lend to the Credit Markets of Euro-currency banks where interest rates would likely be higher. Liquidity shortages would therefore appear within the domestic banking system which attempts to stimulate domestic employment. In this case, any liquidity shortages would have to be made up by the central banks themselves, and this would mean the creation of additional money. Thus the domestic economic policies so dear to macroeconomic planners may require substantial rethinking in a world of international investment. Here lies the main thrust of the BIS's argument which it enunciated long ago as the philosophy underlying its six principles.

A SLIGHT DIGRESSION

Before considering the structure of international payments flows, it might be worthwhile to digress slightly to consider precisely how 'cross border' assets and liabilities arise. Banks have long been in the business of making international payments on behalf of the general public. This is one of their greatest achievements – the development of a quick and efficient mechanism for such payments, the interbank deposit.

Suppose two banking systems exist in two countries which have cross-border business and therefore require a means by which obligations between debtor and creditor in their respective countries may be effectively discharged. This may be accomplished as follows: suppose an individual, M, in one country, wishes to make a payment to another individual, X, in another country. The deposit of M may be subtracted by the amount of the payment and added to the interbank deposit of X's bank held in its favour by M's bank. X, then, receives his payment by means of subtracting from the interbank deposit of M held by X's bank. The payments are effected in the respective currencies at the exchange rates determined in the appropriate foreign exchange markets.[6]

Since foreign assets of one bank in one country are the liabilities of

the bank of the other country owed to it, it follows that X's bank has received an increase in its foreign assets. This has occurred because of the increase in the interbank deposit which took place with the addition of M's payment. Conversely, M's bank has suffered a decrease in its foreign assets because of the decrease in the interbank deposit by the amount of the payment to X. In this way we can readily identify the balance of payments positions of countries as they develop, because it is the banking system's status in terms of interbank foreign assets and liabilities which reflects this position. This the BIS does most effectively in identifying what it terms the 'cross-border positions' of the various reporting countries.

Foreign lending is also reflected in the cross-border positions. Suppose a potential non-bank lender recognises a fruitful outlet for his savings in another country. The loan proceeds would be transmitted via the banking system just as usual. Thus, suppose M decides to lend to X, as opposed to making a payment, a sum of money. M's deposit would be subtracted in the usual way and added to the interbank deposit which is owed to X's bank. X's bank transmits the funds in its own currency to X by subtracting from the deposit it owes to M's bank and adding to X's deposit. The net effect of all this is a decrease in the foreign assets of M's bank since its interbank deposit with X's bank has decreased (correspondingly, its liability to X's bank has increased). To simplify a somewhat complex and detailed explanation, borrowing from other countries by clients of banks means a decrease in a bank's foreign interbank liabilities; lending to other countries by banks' clients, on the other hand, means an increase in the bank's foreign interbank deposits.

When banks themselves elect to lend abroad, the situation is different. In this case, the banks add directly to their foreign assets, i.e. the liabilities of the foreign banks, making funds available to a borrower in another country. There is, thus, a fundamental difference in the accounting technique as well as in the impact of interbank deposits. When banks increase their foreign assets by lending to clients in other countries, they are making available their deposit proceeds to a foreign borrower either as loans in domestic currency or in foreign currency through the foreign exchange market. These are not to be confused with interbank deposits which are generally reserved for effecting payments between clients in different countries and should certainly not be used for direct lending by banks.

The magnitude of the *flows* between countries for both investment and interbank deposit purposes is apparent from Table 9.2. What is

interesting here is the magnitude of the banks' 'cross-border positions', which constitute both the domestic deposits of the banks in a foreign currency as well as the foreign currency alone. One would expect the reporting countries to be relatively wealthy, in the sense that the banking systems of these countries would have an excess of funds for lending to foreign countries, but the amount of these funds – the peak year for cross-border asset flows being almost 265 billion in 1981 – is still surprising.

Table 9.2 Cross-border positions of banks (US$ billions)

	Assets					*Liabilities*				
	1980	*1981*	*1982*	*1983*	*1984*	*1980*	*1981*	*1982*	*1983*	*1984*
Countries outside reporting area	68.2	65.7	39.4	27.6	15.6	52.4	16.5	−11.4	1.2	34.0
Banks within reporting area	135.6	160.7	107.6	64.6	99.4	161.4	155.2	97.7	80.2	104.5
Non-banks within reporting area	30.6	32.0	18.3	5.8	11.2	22.3	49.8	27.7	23.5	13.1
Unallocated	6.7	7.4	15.0	7.2	−0.8	6.1	16.2	16.7	5.9	−1.1
Total	241.1	264.8	180.3	105.2	125.4	242.2	237.7	130.7	110.8	150.5

Source: BIS Annual Report, 1985, p. 111.

The foreign assets of one country are the claims against, or liabilities of, another bank in another country. These are the means by which payments are effected across national boundaries and, as such, are indicators of trade flows. The impact of the recent recession, therefore, is obvious from the decline in the value of the cross-border positions, both assets and liabilities. (Values under the heading 'Countries outside the reporting area' are arrived at from the respective liabilities/asset positions as indicated by the reporting area banks.) By far the largest portion of these cross-border positions are with banks within the reporting area. These deposits reflect the cross-border business activity among banks, i.e. payments and receipts which are sensitive to the economics of the business cycle.

Foreign currency positions may arise from purely domestic activity also. The general public within a country may elect to hold some of its deposits in foreign currency, in which case foreign currency assets and liabilities will develop from this source as well as from foreign sources. These are included in Table 9.3.

Finally, the BIS estimates total *net* international lending (non-bank lending plus that portion of interbank lending which is on-lent) to be as shown in Table 9.4. Again these are surprisingly large values considering that they constitute lending on the part of banks that is not subject

Table 9.3 Domestic positions in foreign currency (US$ billions)

	Assets					*Liabilities*				
	1980	*1981*	*1982*	*1983*	*1984*	*1980*	*1981*	*1982*	*1983*	*1984*
Interbank	62.0	51.3	36.4	11.8	13.6	53.4	48.4	39.1	14.6	14.0
Non-banks	20.7	19.4	12.1	10.9	11.5	5.5	5.3	6.8	2.0	5.6
Total	82.7	70.7	48.5	22.7	25.1	58.9	53.7	45.9	16.6	19.6

to the control of monetary policy or the domestic central bank of the countries concerned. As would be expected, they reflect sharply the economic events of the time. Probably most interesting in the series is the decline of lending to Latin American countries during the early years of the decade, part of the general retrenchment of lending to these countries during the debt repayment crisis.

Table 9.4 Net international bank lending (US$ billions)
assets = liabilities

1980	*1981*	*1982*	*1983*	*1984*
160.0	165.0	95.0	85.0	85.0

Referring to Table 9.2 we can see some interesting banking developments in the figures themselves. Liabilities of countries outside the reporting area showed a decline during the period 1980 through 1982 to reach −11.4 in the latter year. As has been suggested above (the example of X and M in the 'digression' section), an excess of payments to the 'reporting countries' from those outside the reporting area reduces the flow of bank liabilities of the 'inside' countries to the 'outside', even to the amount of a negative flow reported for 1982. In terms of the balance of trade and payments, the 'outside countries' were experiencing a deterioration from 1980 to 1983, therefore the flow in the inside countries' banking *liabilities* to the outside countries tended to become less. Thus, during the particular year 1982, the value of total banking liabilities to these countries actually declined.

The somewhat abrupt increase in the flow of liabilities in 1984 to US$34 billion was the consequence of an improvement in the balance of payments of the 'outside' countries *vis-à-vis* the 'inside' countries. Foreign banking liability positions, thus, reflect inversely the balance of payments situation of the reporting countries. There was, in addition, an inflow of foreign capital from countries outside the reporting area because of higher interest rates and an upward trend of the dollar.[7]

Capital movements in the other direction (in this case repayments from the borrowing countries to the lending countries) increase the foreign assets of the banks in the lending countries. Therefore, the payments default of these countries during the years 1982–4 is clearly evident in the declining flow of loan repayments as a general reduction of assets for the 'inside countries'. At the same time, the banks themselves became reluctant to continue their own direct lending so that foreign assets did not increase from this source.

Banks lend foreign currencies to their own citizens as well as among themselves, and this is reflected in Table 9.3. Interbank assets and liabilities reflect the business activity of the EEC countries as business relations cross the borders of their own countries. Thus, having made loans to their own citizens (assets) in foreign currencies and acquired deposits (liabilities) in currencies other than their own from domestic sources, reporting banks activities will then find their cross-border positions adjusted accordingly. In effect, the same business activity will be reflected in both domestic and cross-border positions, hence will be an indicator of the state of business activity. The impact of the recent recession is, therefore, obvious in the decline in the domestic positions of the banks.

The estimate of total net international lending on the part of the reporting banks, including private lending, is included as Table 9.4 (also see the same row, 'net international lending' in Table 9.1). Here, assets and liabilities are equal, whereas they are not equal in the case of ordinary cross-border positions. Net lending on an annual basis is arrived at by way of summing cross-border positions with countries

Table 9.5 Lending in international markets, 1985 (billions of US dollars)

	1985	*Total Stocks*
Total international lending of reporting banks	221.5	512.7
less: double counting	121.5	1032.7
Net international bank lending	100.0	1480.0
Euro-bond and foreign bond issues	163.6	
less: redemptions, etc.	38.6	
Net international bond financing	125.0	550.0
Total bank and bond financing	225.0	2030.0
less: double counting	55.0	130.0
Total net bank and bond financing	170.0	1900.0

Source: BIS Annual Report, 1986, p. 87.

outside the reporting area, non-banks within the reporting area, domestic positions in foreign currency with non-banks, plus the estimates of on-lending by banks of their foreign interbank deposits. This gives us a concept of the magnitude of investment which crosses national boundaries, an amount which reached US$165 billion in 1981.

It is therefore quite understandable how stocks of net international lending can reach the level of US$1.3 trillion as reported in Table 9.1. When the bond issues are included along with lending via the banking system, the total international lending on the part of reporting banks reaches the staggering sum of US$1.6 trillion. This same figure reached US$ 1.9 trillion in 1985 (see Table 9.5).[8]

THE EURO-CAPITAL MARKET

The area of Euro-bond financing has grown considerably over the past few years to reach the level of a mature and active capital market through which credit facilities may be obtained. Indeed, it is likely that in this market we have the actual substitution for domestic credit facilities so that net additions to the international market do not necessarily increase the world total of credit. Borrowers are preferring long-term borrowing in the international market rather than in their own markets, presaging a complete globalisation of long-term credit facilities.

But bonds by no means embrace the entire international capital market because not only other forms of credit but also international securities markets are now becoming commonplace. We have Floating Rate Notes, Note Issuance Facilities, Euro-securities, along with many variations under the Issuance Facility; indeed, wherever a market can be established with appropriate paper is now the general rule for the establishment of such markets. Many of these are well beyond the capacity of the BIS to record and are of unknown volume.

What is clearly emerging is an international capital market of the complexity of any national market but of considerably greater size. Euro-bonds and foreign bond issues continue to dominate the field under the influence of both falling interest rates and falling inflation rates. Falling rates of interest have encouraged considerable re-financing to longer-term debt with the result that the foreign bond and Euro-bond issues increased considerably to some US$163.6 billion (see Table 9.5) in 1985. Shorter-term debt, note issuance facilities and

floating rate notes have not increased to the same degree (not included in Table 9.5).

The significant feature of all of this is that these international funds do not represent a 'Sword of Damocles' threat of inflation. Quite the contrary; banks and the investing public are seeking an outlet, be it domestic or foreign, for their surplus liquidity, and when investment outlets present themselves, they will be utilised. What *is* significant, and this is the main thrust of the argument, is that domestic monetary policies in the interest of stimulating employment or even reducing inflationary pressures are no longer possible on a purely national scale. Only the Swiss have been able to accomplish the necessary isolation of their domestic economy by means of the famous negative interest rate on foreign deposits. Even in this case, it is questionable that such isolation has been worth the cost.

Indeed, as argued above, the inflationary potential underlying such large amounts of foreign lending is to be found not in the loans themselves but in the uses to which they are put. Latin American countries in particular had been borrowing rather heavily from this International Deposit Market, not for project development purposes, but to finance deficits in their balance of payments. In this way they avoid the deflationary impact which inadequate foreign exchange balances should ordinarily bring.

To the extent, therefore, that inflation was responsible for the balance of payments deficits in the first place, borrowing from the International Deposit Market must prolong and deepen the inflationary pressures. Furthermore, foreign borrowing to cover deficits means that repayment of debt can only be met by real economic growth which, in turn, can generate an export surplus. But this also means that the marginal product of capital financed by foreign borrowing must be great enough to provide sufficient GNP growth not only to finance the export surplus but also to provide the growing aspirations of the public for higher living standards. Since these two demands upon economic growth are often conflicting, it is the banks which made the loans in the first place which are sacrificed. Once again the requirements of sound banking are shunted into second place in the scale of economic priorities, and since politicians require the support of the public to remain in power, it means that the ambitions of politicians do conflict with the reality of sound banking principles.

The political/economic conflict is most evident in the overvalued exchange rate of the borrowing countries. Domestic inflation, combined with the availability of foreign funds from international lending,

means that the domestic currencies may become overvalued in terms of Purchasing Power Parity rather quickly. This discourages the growth of export industries which are so necessary to earn the foreign exchange for the repayment of loans. At the same time, import substituting industries, whatever may exist in an integrated world, are discouraged because imports are relatively cheap.

Again the political/economic conflict is obvious here. Should devaluation of the exchange rate be attempted, food riots in urban areas, due to the greater cost of imported food, are likely, and secondly, the cheaper cost of imported military equipment for use by the armies when devaluation does *not* occur, are important political arguments which outweigh the economics of sound monetarism. The result is that far too many of the world's debtor countries suffer from overvaluation of their currencies.

THE BANKERS' DILEMMA

Under such circumstances, bankers are faced with a monumental task. Political and economic realities conspire to make it practically impossible for debtor countries to manage to service the interest on their loans quite apart from repayment of the principal. In a real sense banks become prisoners of their own debtors, for the simple reason that a bankrupt debtor means a bankrupt bank when loans to the debtor are excessive.

In view of the liquidity requirements of their depositors, banks have only one alternative – to seek further funding from the Deposit Markets. This they can do by devising various types of deposits, mostly short-term, at sufficiently attractive interest rates to satisfy the liquidity demands made upon them.

Once more, the situation is best described in the form of the Credit Market and Money Market diagram developed in Chapter 6. Consider Figure 9.1. As usual, the Credit Market and Deposit Market relations apply. The only difference here is that the Deposit Market is a domestic market and the Credit Market is the market for lending in the foreign country. The process of lending to less developed countries – Latin America, etc. – begins with what is an apparent shift of the Credit Market relation rightward.[10] This is the consequence of what was perceived to be an increase in the marginal revenue product of capital in the foreign country as opposed to increases in rates of inflation. This perception may be completely wrong; indeed subse-

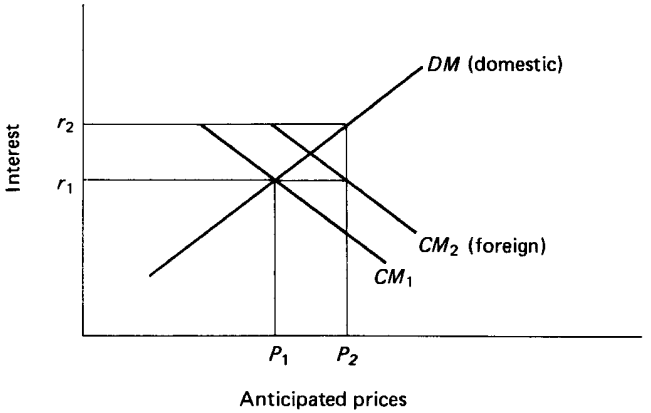


Figure 9.1 Deposit and credit markets with foreign intermediation.

quent events have proved that such was likely to have been true. Nevertheless, banks did appear to recognise a higher marginal product of capital in foreign countries and proceeded to loan on that basis. The intermediation activity of banks was the distance P_1–P_2 'stretching' from their own Deposit Market to what they recognised as a higher value of P, and therefore higher profit difference between P_2 and their own domestic *DM* interest of r_1, than what was obtainable in their home Credit Market.

Were it possible for the borrowing countries to honour their obligations, no difficulty would arise. The higher marginal product of capital (had it applied) should have furnished sufficient funds *in the same currency as had been borrowed* to satisfy the banks' own domestic Deposit Markets. Such was not the case, and it was precisely here that the banks' perceptions were faulty. Instead of specific project lending designed to provide additional exports, in which case the value of the marginal product of the project would apply, banks' loans were much more general. In effect, the banks were financing foreign inflation as well as its consequences in the borrowing countries. It has been necessary, therefore, for banks to encourage, from their own Deposit Markets, additional funds to satisfy their original depositors' liquidity requirements. Instead of acquiring these funds at a higher interest rate, r_2, they have chosen lower interest rates, appropriate to more liquid, shorter-term borrowing, obviously to protect their profit margins or, more likely, minimise their losses.

Assuming a reasonably 'normal' yield curve, such lower-cost

deposits are likely available at shorter term. The intermediation function of banks then takes a different position. Instead of the P_1–P_2 'spread' with foreign loans being repaid when due, it becomes the equivalent of a higher long-term interest rate r_2 but with a lower short-term domestic rate which is actually *the short-term equivalent of that higher long-term rate*, r_2, given the normal yield curve. While profit spreads are somewhat protected, the banks encounter greater problems of liquidity. These liquidity problems arise because longer-term deposits must be honoured by rolling over additional shorter-term deposits. The process of deposit rollover continues with still shorter deposits being used to honour short deposits, etc. until rising short-term interest rates involve the banks in considerable losses, some incurring bankruptcy.

Carlos Langoni in his presentation to the IMF pointed out that banks must share, along with the Latin American countries (specifically Brazil in this case), the responsibility for the dilemma in which they find themselves.[11] His argument is not difficult to justify on the grounds of rational monetary economics. We know that very many branches of US banks were in Brazil, 'on the ground', as it were, to take advantage of the opportunities in the form of higher marginal products of capital. But Mr Langoni's thesis is to the effect that the free market in capital really does not apply in cases such as Brazil. This is tantamount to arguing that the Brazilian GDP in real terms has not grown sufficiently since 1981, to provide an exportable surplus so as to earn the foreign exchange to pay their debts to the lending banks. This forces the banks back into their Deposit Market for further short-term borrowing from their depositors to protect their liquidity. To accept Mr Langoni's argument would be to assume that banks ought to have had the foresight to have denied Brazilian loan applications on the grounds that further economic growth was unlikely. This the US banks were not prepared to do; only the Swiss banks seem to have had the precautionary vision to have avoided the loan trap.

What is most surprising is the banks' capacity for survival despite the lack of loan repayments. With liquidity ratios extremely low, they have substantially increased their lending to each other, i.e. 'with banks within the BIS reporting area'. The increase in commercial lending (among banks within the reporting area) is considerably greater than the increase in direct lending to foreign countries outside the reporting area. The problem loans have by no means been resolved and remain on the books still, not to be increased. The figures in Table 9.6 are extracted from the BIS Annual Report for 1986.

Table 9.6 Cross-border positions for 1985 (billions of US dollars)

	International Loans	*Stocks (end 1985)*
Countries outside reporting area	18.7	620.0
Banks within the reporting area	179.7	1504.9
Non-banks within the reporting area	19.2	336.4
Unallocated	3.9	51.4
Total	221.5	2512.7
of which in foreign currencies and ECUs	80.0	1817.2
Domestic positions in foreign currency		
interbank	51.8	
vis-à-vis non-banks	10.9	
Total domestic	62.7	556.6
Total foreign currency	227.0	2373.8

Source: BIS Annual Report 1986, p. 92.

Total foreign currency positions, in terms of stocks at the end of 1985 reach US$ 2.3 trillion for the BIS reporting banks alone, a large increase over the US$ 2 153 billion of the year before. This $2.3 trillion is a large sum which gives us the combined value of the amount of international lending and business activity carried on by member banks. Just as increased domestic economic activity requires monetary expansion to accompany it, so does international economic activity. Banks are expanding money outside their borders in precisely the same way as inside their borders – an achievement of modern banking beyond the imagination of bankers scarcely a half-century ago.

Much of the increase, then, reflects the worldwide economic expansion, lower interest rates, etc. that accompanied the recovery from the recession which have had their influence in international as well as domestic expansion. All countries, except those of Latin America and others that are heavily in debt, participated in this general economic expansion.[12]

WORLD LIQUIDITY

From the BIS Annual Reports, both voluminous and highly professional as they are, some specific truths clearly emerge. Many of us as academicians in the field of monetary economics have been accustomed to think in terms of governments or central banks controlling

the money supply within their specific country. This is supposed to lie at the heart of monetary policy. We would submit that such is not at all true in the modern world of international banking and capital markets. Quite the contrary; banking control is extremely loose, generally affecting the cost of commercial banking activity rather than the amount of deposit expansion which takes place. These are the facts of life, not just a theoretical concept.

We have already divided the nations of the 'monetary world' into two categories – inflating countries and non-inflating countries. Let us consider once more the first category, inflating countries, with a brief mention of their banking structures.[13]

In Chapter 7, it was argued that it is not money, but liquidity which is actually lent by Euro-currency banks. 'Money', *per se*, is merely the means by which liquidity is transferred. The 'inflating countries', then, are those countries with banking systems which find it possible to expand their money supply more readily than the 'non-inflating' countries' but with ever-increasing costs. It is the cost function which actually constrains monetary expansion.

The cost function arises from the competition of both the banks themselves and the 'near-banks' – building societies, trust companies, etc. – for deposits which will become sufficiently *illiquid* that lending them becomes possible. When the competition is keen, there is insufficient liquidity in the economy to supply the demand, and interest rates on deposits (the cost function for banks) rise. The central bank can alleviate the liquidity shortage through the expansion of the monetary base. In this way, banks in the 'inflating countries' can maintain their liquidity requirements.

Rising costs to banks mean, obviously, lower profit margins. Since, as has been shown in Chapter 7, foreign lending of claims via Euro-currencies occurs without any impact on the domestic money supply, only the banks' liquidity need be 'stretched', as it were, to increase profits.

The BIS analysis clearly leaves us with a very important conclusion: namely, that bank liquidity is now worldwide in scope. We can no longer consider liquidity in terms of a single country. Banking activity is 'cross-border', or international, such that the Deposit Market in one country will seek out the Credit Market in another country, a significant step in the evolution of banking systems. Liquidity is international, and, as such, is not amenable to central bank control in any single country. Furthermore the massive growth of international assets and liabilities tells us that there is no turning back to the days of

domestic monetary control. This is the lesson to be learned from the BIS data.

It also follows that if liquidity is international, it must have its origins in some country or countries, since there exists no international bank at the present time which can provide it. The origin of liquidity lies with those 'inflating countries', particularly the United States, which provide the world's reserve currencies, on the one hand, and whose Deposit Markets are excessive, on the other.

The real function of the 'inflating countries' in the international banking system, then, is the provision of liquidity – liquidity which is surplus to the country's own needs. It is surplus only when defined in terms relative to the liquidity of other countries. We know this because real interest rates are often less in the inflating countries than in other countries, and when Euro-currencies exist to take advantage of the higher rates, they do not affect the inflating country's money supply, only the liquidity which happens to be in surplus relative to the borrowing country.

There are additional sources of foreign currency deposits for banks (or foreign liabilities) in the form of deposits in those currencies which individual deposit owners themselves may prefer. This was the case for the OPEC petro-dollar surpluses during the period of the great oil price increases. Huge deposits were made with the banks of the 'inflating countries' (particularly the USA and Britain) to provide additional liquidity to these banks. Once more, these deposits did not affect the money supply of the USA since they were effectively Euro-dollars except for those deposits which were made with the US banks themselves.[14] Such deposits merely change ownership.

THE COLLAPSE OF THE DOLLAR

Undoubtedly the most interesting as well as the most significant financial event of the year 1985 was the exchange rate peak of the US dollar in February 1985. This was the culmination of a five-year upward trend and was accompanied by an active effort by the monetary authorities to reduce the dollar exchange rate. Exchange market intervention in January 1985, in the form of sales of US dollars amounting to about $10 billion was sufficient to convince markets that a substantial turn-round in the dollar exchange rate would be forthcoming.[15]

The interesting feature regarding the exchange value of the US

dollar was that despite steadily declining interest rates since mid-1981 to early 1985, the dollar rate continued its upward trend in the foreign exchange markets. This situation is easily reconciled with reference to a highly elastic CM_f relation. Such a relation would represent a market consensus that, as interest rates fall, they are expected to fall even further ($r - r^* = +$) so that capital values will be increased. In Figure 8.8 the CM_f relation becomes elastic relative to the *IM* function, so that the response of the exchange rate to falling interest rates is dominated by the CM_f.

We would argue that this was precisely the situation with the US dollar which prevailed until January 1985, at which time it was becoming clear that the dollar was overvalued *vis-à-vis* the US economy. The enormous deficit in the balance of payments, which showed no sign of easing, the difficulty experienced by US export industries, and an easing of the US monetary policy all suggested that an overvaluation existed. Indeed, the public pronouncement of the Group of Five finance ministers on 17 January of their intentions to deliberately lower the value of the dollar via market intervention made the fact of overvaluation concrete.

An interesting fact is that it is necessary to make reference to the 'real' economy in order to prove the existence of overvaluation. Once more it is the decision of the authorities, not the market itself, which determines this. Suppose, for instance, that there had been no government intervention in the market in the first place, i.e. interest rates had been determined by market forces alone. It is likely that both interest and the exchange rate would have settled at the level determined by the intersection of the *IM* function and the CM_f relation, an equilibrium of equilibria; furthermore, since the equilibrium so determined is likely to be reasonably stable, any deviation from these values would ultimately restore the former values.[16]

Government intervention in the markets, whether in foreign currency or domestic, once begun is difficult to stop. Nowhere can we find better examples of the Rational Expectations Theory than in these markets. When the market consensus is such that it knows, and expects, government intervention under certain prevailing circumstances, the action of the government is already 'discounted by the market' before it actually occurs. An easy monetary stance on the part of the Federal Reserve, therefore, signals capital gains, indeed, the conditions which provoke just such a stance are sufficient for the market to expect lower interest rates.

Similarly, high dollar exchange rates *vis-à-vis* US economic con-

ditions which suggest that lower interest rates will be forthcoming, lead the market to expect central bank intervention to lower exchange rates in foreign exchange markets. Lower exchange rates mean falling capital values, and the markets will act defensively, to sell dollar denominated securities, in expectation of further falls in the exchange rate. This further brings down exchange rates, precisely as the authorities intended.

We may visualise this situation as rightward shifts in both the *IM* function and the CM_f relation in the 'back to back' analysis of Figure 8.8 – falling exchange rates without corresponding interest rate adjustments. To avoid the inevitable fall in capital values attendant upon a declining US dollar exchange rate, holders of US dollar securities must sell in the aftermarket before the rate falls. Such rightward shifts can be (at least partially) offset by interest rate increases which would lead to rising exchange rates via the Investment Market function. As experience has shown, however, these possibilities can be limited.

The shifts in the CM_f and *IM* relations will be the result of references to the US 'real' economy. Here the anticipations of the actions of the Federal Reserve Board to check inflationary tendencies, on the one hand, and measures to reduce the US federal deficit, on the other, will be the determining factors. Eventually, however, a market consensus will be reached as to the correct exchange rate and the CM_f relation will cease its rightward shift. Reasonable exchange stability will return.

What are not intended, however, are the broad swings of the foreign exchange rate of the dollar which have been so characteristic of past devaluations and the revaluations which inevitably follow. These are the consequences of interest rate adjustments on the part of governments. It is precisely here that foreign trade must suffer its greatest difficulty. Huge losses can be suffered when currencies alter in value, especially when forward markets are not available in the correct amounts. But government attempts to stabilise exchange rates are not only self-defeating, they make matters worse. What is often referred to as the 'overshoot' is, in reality, a combination of rational expectations and an interaction of aftermarkets with direct investment.

INTERNATIONAL CAPITAL MARKETS IN A WORLD OF INFLATION

We may consider, first, a world inflation rate as an inflation rate

appropriate to those countries that use international capital markets most extensively.[17] Such an inflation rate would be that which is joint, has a common cause, and is, therefore, common to those countries. The inflation process would be a result of the 'export of liquidity' from the inflating countries to the non-inflating countries. This liquidity export process would take place as a result of the interest rate differentials between the two sets of countries, and would continue so long as the differentials are greater than those which would be accounted for by risk.

World prices will rise jointly, because in smaller countries which receive the liquidity (small relative to the United States) the structure of liquidity is different from what it would have been without the liquidity import. The structure of liquidity is different, not only because of the import itself, but also because of the restructuring of domestic liquidity due to a lower interest rate than would have existed without the liquidity import. Domestic saving in the liquidity-receiving country, in other words, will be less because of the lower interest reward. Total liquidity both in the banks and in the hands of the public in the 'importing country' is now sufficient to finance rising prices when they occur.

Rising costs are inevitable in the smaller countries because productive resources would be strained to the limit. This is not merely labour resources, but rather the necessary inputs of materials and energy from its raw stages through the semi-completed and to the final form. Smaller countries simply do not possess the command over the resources which is necessary to contain costs.

Having established, then, a joint inflation rate between the inflating countries and the smaller non-inflating countries, we can, as before, define an International Deposit Market in a manner similar to a national Deposit Market. Such a Deposit Market would equilibrate the combined inflation rates and the equilibrium interest rates of all countries participating in the market; indeed they would be jointly shared. The equilibrium relation would, however, be much more unstable than its national counterpart, and this instability would arise because of the necessary inclusion of exchange rates as an additional variable. The instability, introduced by world inflation rates, is apparent in Figure 9.2.

Unit elasticity of the Deposit Market relation, DM_0, intersecting the origin of the diagram, would be the consequence of stable exchange rates or, rather, the *expectation* of stability. Elastic relations would require small increments of interest to compensate for relatively large changes in the inflation rate (DM_2). This would arise from exchange

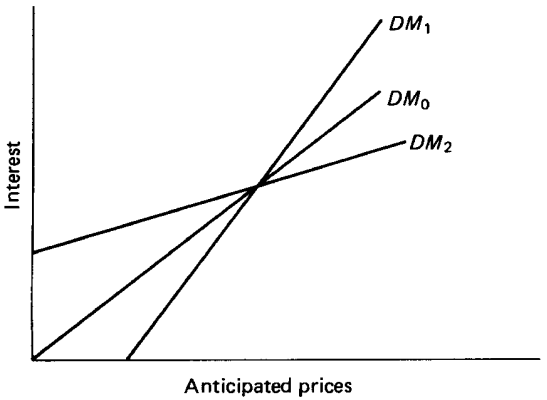


Figure 9.2 International deposit markets, world inflation rates, interest rates and exchange rate stability.

rates which are unstable in the direction of devaluation. A moment's reflection is all that is required to develop this relationship in more detail. Suppose investors plan to invest funds in the international capital market, i.e. in another currency such as the US dollar. There will be three considerations: (i) the stated interest return in money terms; (ii) the exchange rate of the domestic currency with the US dollar which (we shall assume) is expected to decline, thereby increasing the investor's real return in terms of his own currency; and (iii) the inflation rate in the home country which will reduce real return. For the investor to invest funds, then, relatively high anticipated prices (reduced in real terms by expected devaluation) will be the equivalent of relatively small changes in the rate of interest. This means that the *DM* equilibrium must be elastic, DM_2.

Similarly, inelastic *DM* relations would result from a currency exchange rate which is liable to appreciation against the US dollar such that the effect of relatively small increments of domestic price change will be the equivalent of large increments of interest. The price changes will be enhanced by smaller amounts of currency acquired after currency appreciation against the dollar when the investor's funds are repatriated. Rather large increments of interest will therefore be required to compensate for the 'appreciation enhanced' domestic inflation rates.

In a fashion similar to national Credit Markets, we can develop the International Credit Market, which is, of course, negatively sloped as usual. Once more, similar to the domestic *CM* function, the rationale

lies in the fact that lower interest rates entail greater capital values (discounted by the lower rates) and such capital values can only be sustained in the economy if prices are expected to rise. It must be clear, however, that the domestic credit market and the international credit market are directly competitive in the sense that borrowers may access both equally.

The substantive difference between the two markets is the exchange rate. If the *CM* relation displays unit elasticity (a rectangular hyperbola), the exchange rates are stable without an expectation of change. Now suppose that the exchange rate of the currency of the borrowing country (a country other than the United States) is expected to depreciate. Borrowers in countries with non-export-oriented industry will find that (i) the cost of repayment of the US dollar loan, given a certain interest rate, will be higher in real terms, 'wiping out' any gain from a lower interest cost, and (ii) a higher domestic inflation rate is therefore needed to compensate. Equilibrium will therefore require an elastic *CM* relation. The reason that expected depreciation of the exchange rate will result in more expensive borrowing is that repayment of the debt is more costly and will require more domestic reward in the form of higher prices relative to interest rates.

In industries heavily dependent upon exports, the opposite would be true. Thus, expected depreciation of the exchange rate will likely make possible more sales abroad to compensate for the increased interest cost of borrowing. A lower domestic inflation rate is therefore likely to be required to maintain equilibrium, and the *CM* relation would approach inelasticity.

The *CM* relation (CM_2) in Figure 9.3 suggests that higher price levels, relative to declining interest rate differentials, are necessary for higher capital values to remain in equilibrium. This also suggests that exchange rates are expected to depreciate (unstable downward) for industries producing for the home market, so that higher inflation rates are necessary compensation for the exchange depreciation.

This is a matter of some significance. The tendency of many less developed countries, heavily dependent upon exports, to use the facilities of the international capital market is clearly visible in the less elastic CM_1 relation. Such countries often rely upon administered exchange rates which tend to become overvalued relative to domestic inflation rates. These inflation rates will become rather excessive and quickly be disassociated with a realistic exchange rate such as that which might be appropriate in terms of Purchasing Power Parity. Instead of the governments' permitting a lower exchange rate so as to

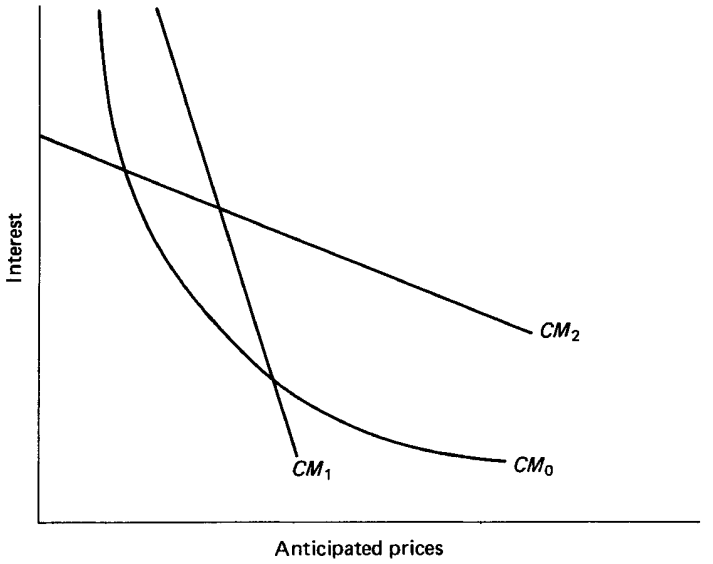


Figure 9.3 International credit markets, inflation rates, interest rates, and exchange rates.

increase export earnings, thereby assisting borrowers, a much higher domestic inflation rate becomes necessary to compensate for specific changes in interest rates. This unnecessarily forces the *CM* relation to the CM_2 position. If the currency were to devalue to approach more nearly its correct market value in foreign exchange markets, the CM_2 position would approach the position CM_0.

Borrowers from the United States would display an ordinary unit elastic *CM* relation. There is no third currency involved here, so that these borrowers may throw the burden (or benefit) of the dollar's appreciation (depreciation) entirely on the lender. In fact, to the extent that exports may increase the cash flow of borrowers, the *CM* relation would tend toward inelasticity. As is well known, the impact of the dollar's recent depreciation has hardly begun to be felt in an expected increase in exports; hence a rather substantial time-lag may be involved in changes in the shape of the *CM* functions suggested in Figure 9.3.

Without attempting a figure of unnecessary complexity, it is obvious that intersection of the International Credit Market and the International Deposit Market will take place at some level of

'equilibrium'. Such equilibrium will be highly unstable because of the changes in anticipations regarding exchange rates and anticipated prices. Furthermore, there is nothing static about either the *DM* or the *CM* relations. Equilibrium in both markets can be attained at any level of interest rates and inflation rates. Thus, both the *DM* and *CM* relations can, and do, shift with changes in inflationary expectations. For example, as in Table 9.7, both declining interest rates and inflation rates can result in a simultaneous movement down the *CM* relation and in the downward (or leftward) 'creep' of the *CM* relation itself.

Table 9.7 New issues in international bond markets (billions of US dollars)

	1982	*1983*	*1984*	*1985*
Total	71.7	72.1	108.1	163.6

Source: BIS Annual Report, 1986, p. 107.

In both 1984 and 1985, substantial increases in bond issues took place. At the same time that these increases in bond issues (including a small amount of FRNs) were taking place, interest rates were falling and inflation rates were, on the whole, declining. In terms of Figure 9.3, the lower interest rates encouraged a movement down the *CM* equilibrium relation while the relation itself was shifting downward to intersect the *DM* relation in Figure 9.2 at a lower level. Credit Market adjustments are taking place, in other words, to adapt to new and lower rates of inflation as well as lower interest rates.

The above theoretical structure explains, we submit, both capital movements into international capital markets (the *DM* relation) as well as international bond placements in those markets (the *CM* relation). It will be obvious that it is not a stable situation at all; quite the contrary, it is highly unstable. The complication is that, with the exchange rate intervening between interest rates and inflation rates as a highly significant variable, one must be prepared to adjust the slope of the Credit and Deposit Market relations according to expectations of the movements of those exchange rates. Exchange rate expectations plus the fact of inflation itself are the sources of the instability. To counteract instability and reduce the risks arising therefrom, the markets adapt to new situations with new devices such as Floating Rate Notes, Note Issuance Facilities, and massive swap arrangements whereby the risks of both exchange and interest movements may be reduced.

Even more interesting is the breakdown of the barriers between domestic and international capital markets. The recent freedom from withholding tax (since 1984 in the USA) tends to narrow differences between international and domestic bond yields. In addition, the use of the LIBOR benchmark is slowly being abandoned in favour of the US commercial paper market, suggesting an even further integration of domestic and international markets.[18]

The future, then, is clear. The time is not distant when the capital market will be completely globalised, and banks, too, will likewise be globalised. The stretching of liquidity will be minimised with the invention of appropriate instruments within the capital market and as banks and borrowers and investors learn to use these instruments to their best advantage. Most important, the transmission of liquidity where it is in surplus to those areas of the world where it is in deficit will be greatly facilitated. This will place a great responsibility in the hands of the 'inflating countries'. Indeed, it is precisely these countries which will require the services of the 'bankers' bank', the BIS, because it is only this international agency which is capable, at the moment, of evaluating the world's liquidity requirements in a highly unstable financial world.

THE ECU

No discussion of the BIS and international capital markets would be complete without at least a mention of the European Currency Unit and its potential as an international monetary unit. Indeed, it is conceivable that the BIS could assume the role of the major international central bank should its ECU become the principal currency of account.

The ECU (European Currency Unit) came into existence as an accounting device representing the counterpart of the contributions of the reserve assets of the EEC central banks that are participating in the EMS exchange rate mechanism (which superseded the 'snake' in 1979). In the operation of the European Monetary Co-operation Fund, the Bank administers the swap operations necessary for the central banks of the member countries to acquire the necessary foreign exchange to maintain the value of other members' currencies. All such swap operations are recorded in ECUs and are subject only to the transfer of an amount of 20 per cent of the member's holdings of gold and dollar reserves, the rest being ECUs.[19]

As might have been expected, the ECU itself has become an international currency suitable for lending even to non-bank entities. By the end of 1985, ECU stocks amounted to US$ 6.4 billion of deposits and US$ 12.3 billion of loans to non-banks. For banks, the debt positions were much larger, making up the difference to a grand total of ECU deposit stocks of US$ 48.1 billion and US$ 54.2 billion. These amounts, similar to the SDR (Special Drawing Right) of the International Monetary Fund, constitute a net addition to the world's supply of international liquidity.

THE MONETARISM OF THE BIS

It would be appropriate to conclude this chapter with a mention, once more, of the philosophical approach of the Bank for International Settlements, which is the only 'super central bank' that maintains a close watch over the international capital market.

True to its origins the BIS remains a monetarist institution. It remains, quite apart from the International Monetary Fund, an institution which holds as its objective the encouragement of sound money and discourages practices which conflict with that objective. This is the principle underlying the conferences held under its sponsorship – for example the Group of Five conference held in January 1985, and the subsequent sales in March of US dollars which resulted in the marked devaluation of the dollar. Thus, while currencies are floating in a free market, the BIS recognises the importance of a reasonable alignment of currencies, particularly when market overshoots occur. This is not the monetary illusion of the past but an empirical monetarism which is flexible and adaptable to the circumstances of the time.

In its annual reports, it comments extensively on the monetary policies and practices of the major countries, also observing the changing environment within which policies must operate, and noting that 'Money stock control continues to provide the necessary anchor for the long-term purchasing power of money.'[20] The Bank is, thus, orthodox in its approach to monetary policy and to fiscal matters as well, pointing out that 'many of the difficulties in the operation of monetary policy in recent years stem from large deficits in the public finances'.[21]

But the major thrust of the Bank's influence lies not in domestic policy matters, but in the many and complex forces which determine

the value of foreign exchange. Here, it is worth quoting three reasons why, as the Bank sees it, exchange rate policies need be considered: (i) increased capital mobility; (ii) the predominance of the overshooting phenomenon; and (iii) long-run effects of exchange misalignments.[22] In this sense the Bank is truly 'international' in scope. The first two should be obvious from the preceding analyses and need not be developed further. The third, however, is interesting in that it considers that a maldistribution of real resources can result from exchange misalignment. This was the case in the rather unusual circumstance of the overvaluation of the US dollar which was, until early 1985, resulting in the trade deficit of that country and which continues even after devaluation of the dollar. These are matters of some concern. But since exchange rates are now determined by capital flows, and since capital markets are nearly completely integrated (domestic and international), it means that an international co-ordination of monetary policies is a *sine qua non* of international economic stability.

The methodological approach of the Bank is quite different from that of the IMF. The Bank uses gentle persuasion and an informational method designed to acquaint nations with problem areas, leaving the action to the finance ministers and central bank governors concerned. This contrasts sharply with the IMF's use of an 'either or' type of pressure. In this regard, the Bank is Swiss in its orientation. This is precisely the Swiss technique which has proven so successful in the relationship between the National Bank and the Swiss banks. Whether such a gentle approach can succeed in the future depends upon the willingness of the member countries not only to co-operate but to accept the BIS's advice when rendered.

10 Conclusion: Stability Midst instability?

THE SWISS UNIVERSAL BANK

Concluding chapters are always the most important because it is here that readers may agree or disagree with the conclusions the writer submits. Should readers disagree, or reach different conclusions, so be it, for we do not pretend to have definitive answers. This is an hypothesis at best and, like all hypotheses in economics, it is subject to scrutiny, debate and, finally, revision or rejection.

The most interesting question which this book attempts to answer still remains unanswered. Precisely how was it possible for the Swiss bankers to escape the apparent 'madness' of overlending to less developed countries to which the other banking systems succumbed? What, precisely, did Swiss banks possess that other banks did not? Before attempting to answer the question directly, we might do well to review the important milestones in the development of Swiss banking.

(1) We recall that there was a specific turning point in the philosophical development of Swiss banking which set it on its course and which it follows even to the present time. This was best expressed in the phrase, 'it was not industry which was short of capital but capital which was short of industry'. Just as in the case of all new ideas, this novel concept met with some opposition from the more conservative members of the Swiss banking community, but in the end it prevailed. Capital, which had already accumulated, must seek new outlets which have never existed previously – a philosophical approach which was relatively new at the time.

There is more to this than a mere turn of phrase. Instead of would-be entrepreneurs approaching bankers for financing certain specific industrial projects, the Swiss banker approaches the entrepreneur. The burden, that is, of investment rests with the banker not the businessman. It is, after all, the banker who has the capital and he must use it wisely and efficiently. Accepting such a burden in this way meant that an entire banking philosophy was being developed, and it is this philosophy, we submit, that sets the Swiss bankers apart.

The success of the Swiss in developing the industrial bank in Europe, where the French had failed, appeared to lie in the capacity of the

Swiss to assume an entrepreneurial responsibility for the particular enterprise in which they were concerned. Frequently, the board of directors of the enterprise also included a member of the board of a Swiss bank. This assured the bank of a 'window' on the operation of industry and, of course, made possible a measure of security for the bank's assets which would be possible in no other way. Similarly, the development of stock exchanges by the banks was for the purpose of facilitating the exchange of shares at the most advantageous prices, a necessity for industrial banking.

But this, obviously industrial, approach to banking was not enough, because already in the early nineteenth century the British and Dutch commercial banking was proving its enormous success by means of the relatively simple process of discounting commercial letters of credit. Recognising this, the Swiss, to whom letters of credit were already well known, further developed this aspect of banking, adding another aspect to their banking activity which was to characterise Swiss modern banking.

(2) Swiss banks were developing in another direction as well – foreign banking. While they are the archetypes of conservatism in a banking sense, they have not eschewed innovation as a means of resolving either individual or joint banking difficulties as they have occurred. They have simply risen to the occasion when the occasion required it, yet they have never lost sight of the necessity for banking conservatism in which they perceived their strength.

Perhaps because of an accident of history, Swiss banks were able to fill a banking vacuum which had existed in central Europe during the mid nineteenth century. French and German banks were not satisfying credit requirements for either economic development or commerce. This the Swiss were able to do. Finally, when the great French indemnity following the Franco-Prussian war had to be financed, the Swiss, by taking advantage of their opportunities, found themselves in a most favourable position to launch their international banking and financial activities for which they are now best known.

Considering all the activities of Swiss banks – (i) stock exchanges which were developed by them early in their history, (ii) foreign banking and the placement of foreign securities, and (iii) the success of the Saint Simonian industrial development banking activity – we can recognise the very different form of banking, the universal bank, which was, and is, foreign to the British or North American system.

In the British and North American economic/legal system, the emphasis has been placed on the fracturing of the investment business

into different activities among several independent entities. This was, presumably, to avoid the danger of a complete monopoly, which, as it turned out, proved to be largely illusory.

The concept that such agencies might be successfully competitive yet maintain separate distinctions among their activities is a modern one to Anglo-Americans. The now well-known 'Big Bang' in the London City and the 'Baby Bangs' occurring in North American centres are precisely this. The Swiss had their 'bangs' long ago. Indeed, combining the financial and banking activities into a Universal Bank with several universal banks in competition has been largely responsible for their success. Thus, when banking is slow, bond underwriting need not be, and the profits from the latter can subsidise an absence of profits from the former, always, of course, maintaining competition. Similarly, commissions from stock exchange activities can sustain revenues when other activities tend to slacken.

(3) Universal banking would appear to be as solid a foundation for any banking system anywhere in the world. Still, however, for Swiss banks, the long period of world economic growth and expansion which began about the year 1950 proved to be the most trying. Unlike the economic development in the nineteenth and early twentieth centuries, development in the post-war period has been characterised by massive incursions into the private sector by governments on a scale never before seen. Huge mobilisations of capital within the western countries by the public sector meant that banks were deprived of their traditional supplies of deposits. In Switzerland, the banks' normal sources of funds, domestic deposits, ceased to expand to the same extent that demands upon them grew. This was the 'weakness' of the industrial banking system which was not shared by ordinary commercial banking. Deposits used for the development of industry require a greater stability for the longer-term assets involved than do those deposits which support commercial activity.

All this meant a restructuring of balance sheets to include government securities, government accounts, loans to governments, etc. among assets. But it also meant that further impetus was given to the banks to look even further abroad for their sources of deposits because of the shrinking private sector relative to the public sector, a development characteristic of the many countries in which traditional Swiss bank clients were located. To be sure, in Switzerland, the banks had already long outgrown the Swiss economy, but just as in other countries, the relative portion of the domestic economy (the private sector) which was appropriate for bank financing was growing smaller.

SWISS BANK DEPOSITS

Foreign deposits from the Swiss point of view constitute a transfer of funds via the central bank foreign reserves of the country from which the deposits originate. Conversely, foreign loans and investments to specific countries from Switzerland are transfers of foreign currencies to the reserves of the recipient country. Euro-currency deposits, on the other hand, do not affect the reserves of any country and only constitute liquidity transfers. The foreign currency reserves do not enter into the matter at all.

This difference between Euro-currencies and Swiss foreign deposits is substantive. It stems from the fact that Euro-currencies constitute claims against Euro-banks which are created by the banks. Swiss banks, on the other hand, do not create claims; their foreign deposits are precisely that, claims against foreign banks, and necessarily involve the foreign exchange reserves. When the Phillipine government, for example, insists that former President Marcos 'plundered' the country, he could very well have been transferring his deposits to Swiss banks in which case the Phillipines would have lost precious reserves of foreign currency.

It is the latter point that is important. It is highly unlikely, so bankers argue, that a Euro-Swiss franc could possibly exist successfully under the circumstances of a relatively small economy with a limited production capacity. However, there is certainly another more direct reason for not having a Euro-Swiss franc, and this directly involves the banks. Euro-Swiss franc claims, created externally by Euro-banks, could be used for the purchase of foreign exchange from Swiss banks (the exchange rate would be highly favourable in this case). In such an event, there would be insufficient bank reserves in all of Switzerland (including the 'hidden reserves') to accommodate the purchases.

BANKING PROCESSES

The processes of banking, though complex enough in practice, are relatively simple to describe in broad outline. Banks intermediate between two markets – a Deposit Market and a Credit Market. The intermediation process involves bridging a liquidity gap between these two markets. The deposits must be sufficiently illiquid, on the one hand, to finance the loans during the maturing phase, yet they must be

sufficiently liquid not to discourage depositors. It is this which underlies the all-important matter of banking confidence.

Swiss banks have shown themselves to be absolute masters of this banking art. They have been able to work efficiently in both markets at once. By becoming part of the Credit Market in the form of jointly supervised projects with industry and in the operation of the stock exchanges, they effectively co-operate with their borrowers to ensure the liquidity of their investment.

In terms of the Deposit Market, Swiss banks have been able to ensure the highest level of confidence. This they have done with the aid of excess reserves which go well beyond the minimum legal requirement. In addition, the use of 'hidden reserves' during periods of banking emergency increases depositor confidence, because the entire reporting processes of balance sheets and income statements (which are seen by the public) are completely unaffected by an emergency situation *even though the necessary emergency payments to depositors are taking place*. This was the lesson which depositors learned from the well-known Chiasso Affair.

Probably more important in the process of universal banking, which stresses the importance of the Deposit Market, is the degree of economic efficiency which can be achieved. Universal banking, we would argue, is peculiarly equipped to identify as closely as possible how society wishes its capital to be invested. This is accomplished by equating the marginal social product of capital to the rate of interest, but, and this is most important, the 'rate of interest' (or rate of reward for investment) must be that rate which just calls forth the necessary illiquidity of investors. In other words, the Deposit Market and the Credit Market are equated at the rate of interest. This is not just the interest rates which are determined by governments via their monetary policies. Such rates as these do not apply in this case.

Because of interest rates determined by central authorities and the liquidity which is provided by the central banks, the commercial banks of the 'western' economies cannot achieve this optimum. The primary concern of these banks is the Credit Market, the markets for loans, since the acquisition of deposits represents no difficulty. To be sure, with the advent of the 'Big Bang' in London, it is quite possible that once the necessary skills are achieved by the banking community, the efficiency of Universal Banking may be approached by the western banking systems as well. In that case, western banking systems will approach more closely the Swiss model.

One of the more interesting aspects of the science of economics and

of many individuals who profess that science, is the almost complete misunderstanding of the principles of banking. This is particularly evident among macroeconomists who construct macreoeconomic models which assume the money supply to be either given or determined extraneously. They seem, it would appear, to be satisfied with a simply Quantity Theory of Money as the monetary factor in their models. Even more specifically, the assumption is frequently made that money supply equals money demand; hence all the central banks need do is see to it that an adequate monetary system is in existence so that the 'real' economy can perform effectively.

This is unfortunate. It ignores the fact that the banking function is truly an endogenous variable to be included as an integral part of an economic system. Furthermore, banking is not merely a domestic but an international phenomenon capable of exerting considerable influence in terms of investment in virtually any country in the world. The conviction is also widespread among economists and politicians that individual governments have the power to follow full employment policies, whatever they may be, by simply influencing the cost of loans and deposits. Again this is unfortunate.

Much of this misunderstanding stems, it appears, from the doctrine of those economists and writers of the past, notably Keynes. Far from understanding banking principles, Keynes assumed that it was quite possible to expand the money supply almost *ad infinitum* during depression periods and that this expansion would have an impact via lower interest rates on the 'real economy'. By lowering interest rates, investment and employment would be stimulated. Bankers, apparently, acquiesced in this somewhat cavalier attitude to their profession and simply learned to live within the economic framework set for them by governments.

They accepted the rules of the game laid down by governments until relatively recent times, when the art of international banking developed to the point that it is now quite a simple matter either to acquire or to 'create' foreign deposits using the domestic currency of the bank. Euro-banking consists of just this – a series of claims which are created against Euro-banks which are intermediaries in a chain of lending. So long as liquidity is not stretched to the breaking point, the lending process can continue until it reaches the final borrower. These are claims created against the Euro-banks, all of which must be honoured.

The unfortunate circumstances surrounding the excessive lending to less developed countries for the purpose of funding balance of payments deficits during the oil price increases, has meant that it has

become impossible for these countries to honour either the interest or the principle from balance of payments surpluses alone. The situation bears a surprising similarity to the period subsequent to The First World War, at which time the former belligerent nations were burdened with debts which were impossible to meet. It was impossible at that time because the creditor nations, particularly the United States, refused to accept imports from these countries whereby they could earn the dollars and/or gold to meet their payments. Such was the nature of the high tariffs of the day.

Currently, the situation is different only in a superficial sense. Instead of a high tariff, the recession in the lending countries has discouraged imports from the borrowing countries at the same time that interest rates have reached extraordinary high levels. Thus, not only is it difficult for the debtor countries to pay their debts plus interest, but it is also not possible for them to do so because creditor nations are reducing their imports from the debtor countries.

We would argue that there exists a fundamental misunderstanding of the banking processes and that it is this misunderstanding which lies at the heart of the difficulty. Unlike the Swiss banks, Anglo-American banks have engaged in a great deal of direct lending to these many debtor countries. This they have done by lending the currencies of their own countries which were used by the borrowing countries to defray balance of payments deficits. These loans were not Euro-currency loans and do not 'spread the risk' amongst a series of banks as the Euro-banks do.

Banks were encouraged to make these loans by governments and by central banks as a means of recycling petro-dollars. The fact that the eventual repayment date might one day arrive seems to have been overlooked. Why? The banks, apparently, made these loans on the basis that 'governments cannot go broke'. Under any circumstance, the US government itself would see to it that sufficient dollars were available for repayment. The whole situation took on the appearance of a modern 'monetary illusion' almost as perverse as that of the earlier period when the USA insisted on repayment of war debt without the wherewithal for repayment.

Fortunately for both bankers and governments, the international machinery is in place whereby assistance to these debtor countries may be rendered. The BIS and the IMF have both provided valuable service, as well as the central bankers of the major countries (the Group of Ten). The problem, however, is by no means resolved and will likely remain a classic example of the consequences of ignoring the basic principles of banking for many, many decades.

THE SYSTEMS OF CENTRAL BANKING

It would appear that two very different and distinct monetary systems have emerged since the demise of the gold standard. Both, it might be added, recognise that there is a place for a central bank in the monetary system. With a gold standard in the purest sense, a 'free market' in money may exist, but without gold, a free market for money has no place in a modern economic system. This is why central banks are necessary.

With the central bank in operation, the assets/liabilities of the central bank constitute a monetary base which is supposed to be more or less under the control of the government. One monetary system includes government securities as a major portion of the central bank assets. It shows very distinct tendencies towards inflation as government deficits become difficult to control.[1] These are the 'inflating countries'. When the currencies of these countries, the United States and Great Britain, for example, are in a position of major importance in the world's economic and financial system, we find that to the extent that their money supply becomes a focus for their own domestic monetary policies, they contribute to the world's inflation/deflation.

This is accomplished through two different methods. The first is via the deficit in the balance of payments in the inflating countries whereby an accrual of US dollars or sterling adds to the foreign exchange reserves of the central banks of the second system – those central banks whose assets, and consequently the monetary base, consist mostly of foreign exchange. When exchange rates are fixed, the central banks must automatically purchase surplus foreign exchange. Even with floating exchange rates these central banks are sometimes constrained to interfere in the foreign exchange markets to avoid an excessive appreciation of their currencies. This necessitates further additions to their foreign reserves and to their monetary base. The Swiss National Bank is an example *par excellence* of this latter group.

But there is still another, and perhaps more subtle, contribution to world inflation made by these 'inflating countries' that prefer to ignore the effects of their domestic policies on the rest of the world. Easy money in these countries means low interest rates; it does not mean a surplus of money in the Quantity Theory sense. Lower interest rates will encourage the domestic banking systems to seek higher returns elsewhere in the Euro-currency markets. This means that an availability of 'imported' investment funding exists within those countries

where the domestic physical resources are inadequate. Thus, it is not the funds themselves which are inflationary but an excess of total demand over total supply.

Over the past two decades, there has indeed been a considerable amount of just such funding. Too rapid a pace of industrial growth and expansion has placed excessive demands on the world's resources, both natural and human, and this has resulted in rising costs, prices, and industrial pollution. It would appear that the 'inflating countries' must bear much of the responsibility for this because, in a monetary sense, they have provided the means by which demand can be expressed in the markets.

There is another characteristic of these banking systems which may well, in the long run, prove to be even more disastrous for the world's monetary system. They have assumed a pivotal position in the world's banking system for which they were quite unprepared. While they were undoubted experts in the evaluation of the credit-worthiness of their own domestic lending and even foreign project lending, they showed precisely the opposite characteristic when evaluating the economic and financial strength of countries. Loans for the purpose of covering balance of payments deficits must require an evaluation of the entire economy of a country, in terms not only of its current productive and marketing capacity, but of its future potential, the future state of the markets for products, etc. This may seem a tall order for these 'pivotal banks' to assume, but it is here particularly that the Swiss banks have shown the greatest wisdom.

One is justified in asking the question, just how have the Swiss banks avoided the excessive lending which has characterised the 'pivotal' US and British banks? The answer will almost certainly lie within the structure of the Swiss banking paradigm. If this be correct, a critical investigation into both systems will just as certainly lead to some substantive differences between the Swiss and the Anglo-American banking philosophy.

SWISS BANKING, A HERITAGE

There is scarcely any doubt that the Swiss banker has inherited a unique tradition. It is unique because of the accident of geography which has endowed the Swiss with a small country of limited resources. Apart from tourism, i.e. the beauty of the landscape, there is little to recommend the country as far as economic resources are concerned.

Considering that only a century and a half ago the country was little more than a small-scale agricultural country and that today it enjoys one of the world's highest living standards, it follows that there has been something more than just natural resources in Switzerland.

We would submit that it is human resources which, when developed to their highest level, become human capital. It is from this that the Swiss banking paradigm has emerged, for banking is an industry which is based entirely upon this human capital. Should one consider 'economic space', defined as the economic influence of a country, as the determinant of the size of a country, Switzerland must be one of the larger countries of the world. In terms of banking, it is a superpower. It is a superpower because its banks are virtually everywhere, wherever the possibility of deposit collection and investment exists.

Perhaps more than in any other banking system anywhere, Swiss bankers have developed the art of learning from experience. From the adverse experiences of war, inflation, political upheavals, etc. has grown the famous conservatism which ensures that Swiss bank investments are of the highest quality. From the very many bank failures and the unfortunate experiences with their own domestic banking has developed the extremely high standard of liquidity which they maintain. Similarly, the necessity for attracting and holding foreign deposits has made it essential for an effective 'deposit insurance' on an international scale to be maintained by the banks, again in the form of strong liquidity positions including the famous hidden reserves.

One of the more outstanding achievements of the Swiss in terms of international banking must surely be their adaptability to the countries in which they have branches. Most of the banking personnel are masters of not only their own three principal languages but of English as well. This means that they are in a position to understand the needs and requirements of the local economies and to structure their banking functions accordingly. This they have done remarkably well, and there is no doubt that their ability to adapt is a major factor in their success.

The fact that three of the Swiss Grossbanken are considered to be among the top five banks in the world says a great deal. It speaks for the advantages of size, economies of scale which come with optimum size, and finally, the experience and lessons derived from the process of becoming big. After all, in the banking industry, it is almost inevitable that successful banks will grow by taking over the many unsuccessful banking ventures and by *being* successful in the first place so as to have the necessary funds to finance the takeovers!

The rather surprising feature of Anglo-American banking is the fact that it does not appear to have learned from the Swiss example. Thus even with Swiss branches in competition, these 'pivotal' world banks could not seem to develop the necessary skills and equipment that would enable them to evaluate the degree of risk entailed in their lending programmes for developing countries. To this extent, we shall never know the reason for what must have been the most extraordinary banking debacle of all time.

BANKING PRINCIPLES – A NEGLECTED STUDY

Unfortunately, very little attention has been paid by modern economists to the principles of banking and finance, whereas a great deal of theoretical and econometric study has been devoted to the 'real' economy, its workings, and theories. This is regrettable, because in the last analysis financial markets can neither be avoided nor ignored. There are some basic principles of banking which are important, as the Swiss experience confirms, and which are worth while setting forth.

It seems quite clear that there are two markets which form the foundation for an analysis of banking and finance. One of these is what has been referred to in these pages as the Deposit Market. Banks, that is, must attract and hold deposit illiquidities with an interest reward, thereby encouraging a deposit structure appropriate to the structure of assets. The other is the Credit Market through which the liquidity acquired in the Deposit Market is transferred to that sector of the economy which will use it. It is via the Credit Market that a working relationship with the 'real' economy is maintained.

A universal characteristic of these financial markets is the relationship to the interest rate. Capital values move inversely with the rate of interest. This is true for assets in all forms. Bond prices, of course, are related directly to the inverse of interest rates, in fact, bond yields are often identified with *the* interest rate. Values of equities on the stock exchanges are similarly related, though with much less exactitude, to the inverse of interest. In this latter case, falling interest rates can precipitate rising capital values and vice versa.

Under conditions of equilibrium, rising capital values in the stock market (increasing corporate values) must mean corresponding increases in the prices of the products of that real capital, thereby completing the relationship between the 'real' economy and the financial markets. The equilibrium condition is necessary in order that

investment opportunities may compete as between financial assets and real assets. This is the well-known 'opportunity cost' in economics.

In the entire system it is apparent that the interest rate is a powerful driving force within the system. This is especially true so long as interest is an administered price. Were it not administered by the monetary authorities, the entire system would be mutually determined along with the interest rate.

The foreign exchange rate would be similarly determined because it too is part of the capital valuation of securities to the foreign owner. This assumes, of course, that exchange rates are free to fluctuate in accordance with free market principles. Should these rates be administered as well as interest rates, the entire financial system becomes effectively determined by the monetary authority.

Ultimately, the real economy itself must be adversely affected. Most of us are sufficiently familiar with the impact of rising interest rates on the economy to recognise that higher rates must eventually result in lower prices, both anticipated and real, and, of course, the converse – lower rates and higher prices. Equilibrium in the 'real' economy means that higher interest costs are likely to result in higher costs of everything else, and so long as the rate of increase in interest costs exceeds the inflation rate (higher costs cannot be translated in correspondingly higher prices), bankruptcies, receiverships, etc. are likely to occur. These further translate into unemployment and a collapse in the demand for goods and services; hence, rates of inflation tend to fall. This is the underlying logic of the Credit Market. On the other hand, interest rates lower than free market rates must result in inflation in the end. Capital values will become excessive, full employment levels are reached, wage costs increase, and price levels both actual and anticipated will rise.

The essence of the argument is that there is no monetary authority capable of determining the interest rate close enough to the equilibrium rate to avoid the detrimental effects of 'cyclical' swings of the economic system. We would argue that the modern business cycle is no longer self-generating within a free market system; it arises from the fallibility of human judgement.

It is very obvious that there has been a tendency on the part of banks and governments to ignore, or simply take for granted, the Deposit Markets in the interest of influencing or even controlling the 'real' economy. This means that the centre of attention has been the Credit Market, since it is on this market that the Keynesian methods of

monetary policy have their strongest impact. Should shortages of liquidity arise in the administration of monetary policy, the central bank has always been available for the provision of such liquidity. In the event that bank liquidity was intended to be short, in a tight anti-inflationary policy, only then did the Deposit Market become significant as interest rates in this market tended to rise.

With the development of the Euro-currency system, the Deposit Market has taken on a much greater significance. The 'demand' side of this market (the demand for deposits) has now become worldwide. Deposits which form the supply side of the banking function are of sufficient quantity, given the low domestic interest rate, that the liquidities from these deposits are sufficient to satisfy both the domestic and the Euro-currency market.

This follows from the fact that the domestic supply of deposits is unaffected by Euro-currency lending; it is only the liquidity which is affected. While the Euro-currencies thus developed are almost infinite in their capacity for expansion (subject to the availability of liquidity), they ought not to be confused with an excessive pressure for demand placed upon the world's resources. First, the demand exists, then the Euro-currencies can be made available to satisfy that demand, not before.

The more interesting development, however, has not been the Euro-currency itself but the tendency on the part of banks to lend directly to foreign countries, both to the governments of these countries and to the private sector. This has resulted largely from the growth of branch banks in foreign countries. Thus, when a branch bank is approached for credit by business enterprise in Brazil, US dollars may be made available to the Brazilian borrower. These dollars may be readily exchanged for Brazilian currency should the borrower wish, in which case the Bank of Brazil acquires the US currency.

Loan repayment requires the reverse procedure. The borrower must earn sufficient funds (and Brazil itself must have sufficient dollars in its foreign exchange accounts) to honour his obligations. It is the fact that Brazil does not have sufficient dollar funds available that is the problem.

To this extent, US and British banks were engaging in precisely the same type of lending as the Swiss banks had been doing for the past century or so. Quite obviously one could hardly expect the same degree of professionalism as the Swiss have achieved in this business unless they had the humility to learn from the experience of their Swiss counterparts.

EQUILIBRIUM IN THE FINANCIAL SYSTEM – STABLE OR UNSTABLE?

There are some fundamental weaknesses in the Anglo-American banking systems which stand out sharply in contrast to the Swiss; indeed, these weaknesses will likely lie at the root of the banking problem of overlending. Of the two markets – Deposit and Credit Markets – it is the latter, the Credit Market, which has absorbed the attention of US and British banks. With a central bank which accepts responsibility for the money supply and the liquidity of the banks, it becomes no longer necessary for banks to actively bridge the liquidities between the two markets. The Deposit Market is left to other institutions: Building Societies, Trust Companies, etc., often referred to as 'near banks'. This is a matter of some importance because it creates the inflationary bias in the banking system, referred to above, which is manifest in the difficulty shown by these countries in checking the growth of their money supply.

The root of the difficulty must lie with government. Not only have governments, or central banks, taken over the administration of money, but they have also included the administration of interest rates as part of their responsibility. This inclusion of interest within the responsibility of government means that the monetary authorities must be prepared to supply the necessary liquidity whenever banks require it. This further divorces the Deposit Market from the banks' prime concern.

The specific example of this inflationary bias is the oil price increases of the early 1970s. It is common among British and American economists to attribute to the OPEC oil price increases a primary responsibility for the inflation of the past decade – thereby considering inflation to be a cost-push phenomenon. The fact remains, however, that such cost-push episodes must be financed by the monetary system; there is no other alternative. This is the key, it would appear, to understanding the varying degrees of success in controlling the inflationary impact of oil price increases, the 'inflating countries' being particularly susceptible to cost-push pressures, whereas Switzerland and Germany have been most successful in containing these cost increases.

During the past twenty-odd years, inflation has become a permanent feature of most economies. While it has shown tendencies to decline in recent years, there is no suggestion of an end to its permanence. This justifies including the inflation rate as an additional

variable which is equal to the interest rate in terms of its impact on the financial system. Including the inflation rate in this way creates an additional instability. Capital values are determined by the value of the output of capital, generally rising with rising values of output. Capital values are also determined by interest rates, falling with rising interest rates and rising with falling rates.

In the Deposit Market also, interest rates and inflation move together to establish an equilibrium 'real rate' of interest. To achieve equilibrium between these two markets is the task of the banking systems, but it is made doubly difficult because of the impact of inflation, indeed, it is next to impossible.

In the foreign sector, the currency exchange rates tend to move wildly in response to two conflicting influences: the inflow of capital in response to higher interest rates, and the movement of capital out of a currency in response to changes in capital values (the inverse of interest) in the aftermarket. It is not possible to identify which has the greater weight at any moment since such factors as the prestige of the currency and the expectations of future interest rate movements are important determinants. We know, however, that exchange rates do behave in an erratic fashion, both overshooting and undershooting what is, presumably, a 'correct' free market value. Certainly, exchange stability is an impossibility under the triple circumstances of inflation, varying interest rates administered by governments, and the expectations of what interest rates will be in the future. We would do well to review the conditions developed in Chapter 9.

In Figure 10.1, equilibrium between both the international Deposit Market and the international Credit Market is established at r_0 interest and P_0 inflation rates; currency is expected to depreciate *vis-à-vis* the US dollar. Expected depreciation of the currency is indicated by the slope of the *DM* relation (elastic). Smaller changes in the international interest rate are required to compensate for large increments of domestic inflation because the expected depreciation of the currency will partially compensate for the higher inflation. It becomes more advantageous to purchase US dollar securities under such conditions. For the Credit Market also small increments of interest rate changes will compensate for large increments of domestic inflation: a depreciating exchange rate will make it more expensive to purchase US dollars for loan repayment purposes unless inflation rates are high. (We assume here that the industries are not export-oriented, in which case devaluation, countered by inflation, will not affect the export demand for the products).

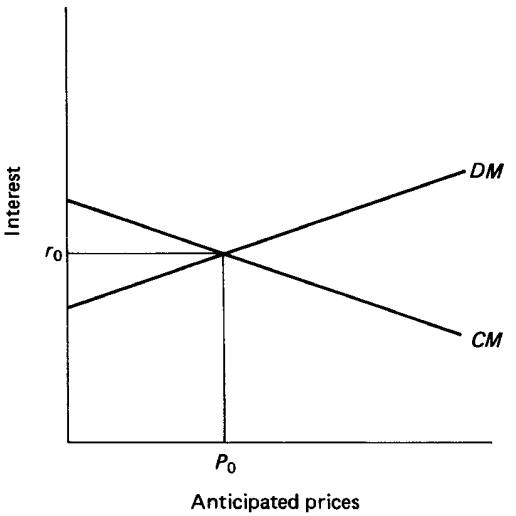


Figure 10.1 Expected exchange rate depreciation *vis-à-vis* the US dollar: instability of equilibrium in international capital markets

Under the circumstances, is the interest rate, r_0, and the anticipated price level, P_0, equilibrium stable? The answer is clear, no, it is not stable. Inflation rates become international such that both the borrowing and the lending country will likely experience an increase (or a decrease) in inflation beyond their own possibility of control; this shifts the *DM* and the *CM* relations rightward (for an increase in inflation) or leftward (for a decrease in inflation). Interest rates, we recall, are administered prices set by the central bank, i.e. the Federal Reserve Board for the United States and the various central banks for other countries. Similarly, changes in interest rates will shift the *DM* and *CM* lines up or down, assuming the inflation rates do not change.

Another cause of instability in this case is the anticipated rate of exchange. Expected exchange appreciation will alter the slopes of the *DM* and *CM* relations from elastic to inelastic. We thus can visualise a continuous movement of the two relations both in shifts and in slopes depending upon the policies which the world *expects* the Federal Reserve Board to follow. Of course, the expected exchange rate of the domestic currency will depend upon very many factors including the state of the economy as well as the politics of the government in power.

Under the circumstances it is virtually impossible to maintain stable equilibrium in international capital markets. Deposits will move into

and out of currencies that are expected to appreciate or depreciate. Bonds will be floated by borrowers in various currencies, again depending on the expectations of the foreign exchange markets. Again, interest rate movements, which are under the influence of monetary authorities instead of the free market, mean that expectations of what rates the authorities will determine become a significant variable.

Despite all this, the international capital market is growing enormously. Indeed, stability is not a requirement for growth in these markets because new credit instruments are developed to reduce significantly the borrowers' risk. These instruments are designed to hedge against the very sources of instability within the market itself.

THE BANK FOR INTERNATIONAL SETTLEMENTS

It is in this financial environment that the BIS is operating. Keeping in mind that there is no possibility of coercion in the international scene and that there is no safety net which can be devised to assist banks in difficulty with their international deposits, the only possibility of maintaining some order is knowledge, experience, wisdom and gentle persuasion. It is just this which the BIS offers in its excellent annual reports.

It is not difficult to recognise in the BIS the influence of the Swiss. While the BIS itself is not Swiss, the philosophy is very much in keeping with that of Swiss bankers. The art of persuasion, which has been practised by the Swiss for very many years, can only take place in an atmosphere of goodwill in a 'small town' environment in which everyone knows everyone else. This is the approach of the BIS when it meets annually with its member central bankers. But more important, like Swiss banks, it has not forsaken its important monetarism approach and it continues to play the most important role as a bank of central banks.

In recent years, the instability of the international capital market seems to have focused mostly on the exchange rate. This is not to suggest that this is the only one of the three variables (interest, inflation, and exchange) which will continue to absorb the impact of instability. Quite the contrary: inflation rates can increase if the inflating countries are unable to keep the growth of their money supply in check.

THE SWISS SUCCESS

The question still remains, however, how was it possible for the Swiss to avoid the morass of bank lending to countries that have little or no prospect of repayment? There are a number of points here which can be summarised from the preceding chapters.

(1) The Swiss franc is not a Euro-currency. At the same time that other currencies, Euro-dollars for instance, are developed from an increasing series of claims against intermediating banks, it is still possible for the Euro-dollar to be used for the purchase of US production. There is nothing to differentiate the Euro-currency from its domestic counterpart. It is in this way that Euro-currencies, when borrowed, can be used for balance of payments deficits.

Most important, though, is the fact that the country behind the Euro-currency loses control of its own currency. It must be understood that the Euro-countries are increasing the world's supply of liquidity, which to this point can be absorbed in the world's financial transactions. Eventually, should a surfeit of Euro-currencies exist, it is likely that massive purchases from the Euro-countries themselves would take place in the form of a flight from money – a loss of confidence in the value of the Euro-currency.

To Switzerland this could be disaster if a Euro-Swiss franc existed. The Swiss economy is not strong enough to enable such purchases to occur without enormous domestic inflationary pressures. Direct lending, therefore, is the only reasonable method of foreign lending: precisely what the Swiss have been doing for a century and a half, because such lending means Swiss control.

(2) Keeping in control of their foreign lending means that Swiss banks can evaluate the prospects of the borrower directly. Again this means that their mechanism of evaluation is already in place. They have the experience; they are not doing something new and different without a background.

The Swiss have an enormous advantage here. It is not particularly difficult to expand balance sheet assets/liabilities to increase profits. Shareholders press for this. But we can recognise in Swiss banking history every reason for *not* doing so without expanding the liquidity cover. This means that shares must increase as well as purely liquid reserves. But increasing shares means diluting profits, something that existing shareholders do not particularly prefer. Thus, the point should be examined from another perspective. The Swiss bankers were being quite rational in not increasing their lending to less-than-credit-worthy

borrowers; it was the other banks, following the lead of the prestigious Citicorp, that were irrational. However one wishes to examine the matter, there is no doubt that the Swiss method of evaluating the Credit Market for those countries was considerably superior to that of Anglo-American banks.

(3) Another major difference between the Swiss and their Anglo-American counterparts was the apparent strong awareness of the Deposit Market on the part of the Swiss. This is not to suggest that Anglo-American bankers ignore their deposits. They are conscious enough of the need for liquidity to pay depositors on demand. What happens is that, as they borrow from their depositors, they acquire the funds (or liquidity) with which to do precisely as they see fit. They acquire assets, loans, investments, etc., with what are their *own* funds to be structured in accordance with their own version of the profit motive. Deposit insurance which guarantees the liquidity of deposits seems to encourage banks to assume greater risk postures in this regard.

Not so the Swiss. Always, they are using someone else's money, and this imposes a discipline upon the asset structure. Eventually, someone else's money must be returned intact, with interest, and the assets must be sufficiently liquid to ensure that money which does not belong to them is safe and risk-free.

This means a high degree of conservatism which will certainly not satisfy shareholders. But here again the Swiss banker excels over his Anglo-American counterpart because he is a universal banker who performs services other than pure banking as the western banks know it. Profits derive from many different sources of financial activity, indeed, it is not uncommon for Swiss banks to loan at a lower interest than their deposits, yet show profits!

(4) As Swiss banks have expanded into the field of foreign lending, they have grown to the stature of Switzerland's major industry. This is why it is not just a matter of an industry's survival should any difficulty arise with the banking industry; it is a nation's survival. Certainly the current high standard of living enjoyed by the Swiss would be impossible to sustain without the contribution of the banks to both the GDP and the balance of payments.

(5) A theme running through this book, and pursuant to point (3) above, is the importance of the deposit system as the significant half of the activity of Swiss banks. This contrasts with what is obviously the attempt by the 'western banks' and governments to seek solutions to economic difficulties not in the form of increases in savings deposits via

the Deposit Market, but in the form of deposit expansion. Thus, when the OPEC oil price increases occurred initially, monetary expansion was seen as the ultimate solution. The objective was to avoid the reductions in spending and savings and the consequent cutbacks in investment which were certain to follow and this could be done by increasing the supply of money.[2] Increasing the money supply in this way, through the banking mechanism, effectively wiped out the impact of the oil price increases. Thus, by expanding money at the same time that the oil price increases were being felt throughout the world's economy, the oil price rise was 'neutralised'. Consumption, saving, and investment were unimpaired and the world's economy proceeded as before. All that actually happened was some temporary redistribution of the world's real wealth in favour of OPEC nations.

The banking system was utilised in the sense that loan demands via the Credit Market increased and, to satisfy this demand, central banks of the western nations chose to satisfy the liquidity requirements of the banking systems instead of pressing the Deposit Markets for further illiquidity. An overall expansion of liquidity and deposits occurred thereby. Effectively, the central banks resorted to the use of 'artificial savings' instead of the illiquidity of the Deposit Market.

We do not find such an economic philosophy among Swiss bankers. Inflating the currency, to be sure, is the easy way out of the dilemma, because it raises the monetary cost to OPEC nations of what *they* purchase as imports to the same extent, roughly, that they raised the price of oil. In this way, a porton of the real wealth transfer is recouped. But there is also another way. The world's banking system can, via the Deposit Market, use these deposits of the OPEC nations for investment in sound, profitable projects designed, perhaps, to reduce dependence on conventional oil, or whatever else is made available to the banks in the Credit Market. In other words, deposits may be recycled by banks towards profitable capital investment. In this way, the OPEC price increases could be redirected so that instead of a source of inflation, they could become a positive gain in terms of the Gross World Product.

A SWISS CONTRIBUTION

This brings us to the final point of this concluding chapter, a point which has emerged during a process of research which has led to this conclusion. Suppose there were no Swiss banking system with its

emphasis on confidentiality, its conservatism which defends its deposits, and its international outlook which is so complete that there are few financial or industrial capitals without active Swiss branches. We would argue that the world would have to set about creating a 'Swiss system' and would have to do so rather quickly.

The contribution of the Swiss system is immense. It reaches into most countries to offer an alternative to the banking system of that country, forcing competition for those other banking systems which would otherwise be lacking. This brings the standard of those systems up, not to the level of the Swiss, but sufficiently high to warrant the trust and confidence of their own people.

It is unfortunate that a general perception of Swiss banking rests upon the very small aspect of the collection of funds of dubious origin and the transmission of these funds on a confidential basis to others of similarly dubious nature. This is the inevitable by-product of what is actually a most efficient system of intermediating between Deposit and Credit Markets.

As a realistic example, we might hypothesise regarding the infamous Iran/Contra affair. Suppose, as a result of US arms shipments to Iran, payments are made to some individual who has an account with the Iranian Bank. This individual, obviously of some considerable repute, obtains a letter from the bank certifying the authenticity of the funds and presents this letter along with an appropriate banking instrument of transfer of funds to a Swiss bank. The Swiss banker, though he may be loath to accept the deposit on moral grounds, has absolutely no reason for not doing so: to the contrary, considering that Iran and Switzerland maintain diplomatic relations, etc. it would be unwise for the banker to refuse the deposit.

Having accepted the deposit, the ill-reputed funds have now been 'laundered', i.e. they are now the liability of a Swiss bank instead of the Iranian Bank. Further, since the funds are now under the protection of the Swiss Secrecy Law, it is hardly possible to investigate their origin from that point forward. The money is now 'clean', ready for disbursement to the Contras or their agent.

Suppose we ask ourselves the simple question, who is responsible in the Iran/Contra affair, the Swiss banks or the original perpetrators of the scheme? The answer is obvious. Nevertheless, it is unfortunate that there is a tendency to attribute guilt by association. In so doing, we tend to overlook the immense positive contribution of Swiss banks as intermediators between Deposit and Credit markets, which is, in the final analysis, what banking is all about.

If this definition of banking is accepted, then the standard of quality must be the degree of perfection these institutions actually achieve in peforming that function. Obviously we cannot measure quality of this kind objectively, but we do know and can state that the Swiss performance in *not* lending to risk-prone countries (or lending the minimum) means that they have indeed performed much better than those banks that did. As a consequence, the Gross World Product is higher for Swiss investments in the world Credit Markets than without them. This poses a standard of excellence for other banking systems to compete with, i.e. the capacity to develop lending policies in such a way as to avoid the liquidity problems which they are experiencing at the present time.

Suppose, then, that the competition of the Swiss banking system did not exist. All other banking systems would, of necessity, have to discipline themselves so as to achieve a state of higher quality, either by law, coercion, or some other form of a binding agreement. Perhaps the function of banking would have to be taken over by the state to ensure to the people the necessary minimum standard of quality. But laws or state ownership are poor substitutes for the competitive world banking system we have at the present time. The fact remains, though, that without the Swiss, we would have to 'create' our own substitutes for that competition very quickly. 'I am Swiss therefore I am a banker!' are important words spoken by important people who offer banking stability to a world of financial instability.

Notes and References

1 The Banks of Switzerland

1. In Germany, by the time of the German Empire, there were some 33 banks of issue with 140 different banknotes. The note issue was finally concentrated in the hands of the Reichsbank in 1910, a long and slow process. Again, one suspects that the Swiss banknote enjoyed very much more acceptability than the German counterparts for commercial uses. Arthur Birnie, *An Economic History of Europe, 1760–1939* (Methuen & Co., London, 1951) pp. 88–93.
2. Hans Bauer, *Swiss Bank Corporation, 1872–1972* (Basle, 1972), p. 26.
3. Ibid, p. 34.
4. In effect, the Swiss banks were taking the same action that modern international banks are taking today, developing Euro-equity markets for the purpose of ensuring the liquidity of their investments.
5. Hans Bauer, *Swiss Bank Corporation, 1872–1972* (Basle, 1972), p. 195.
6. This is the figure noted by Hans Bauer in his book cited above for the Group 2 major banks. He observes that this enormous growth was due to the foreign sector's activity in which the major banks participated more than other cantonal banks. For the groups 1 to 5 (including cantonal banks) the growth rate of liabilities/assets from 1950 to 1984 was 25-fold, from 27.4 billion francs to 689.1 billion francs in 1984 (Table 21, Schweizerische Nationalbank, *Les banques suisses en 1984,* no. 69).

2 Banking, an Industry of Confidence

1. Irving Fisher's famous Equation of Exchange includes deposit money, M', as related in some fixed way to the amount of cash, M, in the system. See his well-known *Purchasing Power of Money*. The origin of the idea of monetary control through the control of 'high powered money' appears in W. R. Burgess and W. W. Riefler in their publications, *The Reserve Banks and the Money Market* (Burgess), and *Money Rates and Money Markets in the United States* (Riefler). Both books were published in the latter 1920s and early 1930s.
2. One might carry the example one step further by suggesting that the bank 'burn' its own notes since they no longer have value.
3. Costs do not rise asymptotically, of course, because all the banks need do to meet their statutory requirements is sell liquid assets which earn interest to provide deposits in the central banks which

earn no interest. The earnings forgone as a result constitute the cost. The more earning assets which must be sold, the greater the cost.

4. A better and more descriptive term is 'stickability' for such deposits, because deposits are never really idle to the banker, only to the owner.
5. James Tobin was very conscious of the defects inherent in the banking multiplier analysis which he referred to as the 'old view' as opposed to the 'new view'. See 'Commercial Banks as Creators of "Money"', *Readings in Money National Income, and Stabilization Policy*, 3rd edn (W. L. Smith and R. L. Teigen, Irwin Series on Economics) 1974, p. 224.
6. The nature of liquidity and its importance in banking, particularly Swiss banking, is discussed in depth in Chapter 3. One can hardly overstress the liquidity concept in modern banking and what its absence means, especially during recent times when the world's banks are threatened.
7. F. Hayek. *The Pure Theory of Capital*, Chapter 14.
8. The value, s, is often referred to as the 'internal rate of return'.
9. It will be clear from inspection that no profit is possible to the bank in Figure 2.2 since the interest rates on the three deposits exceed the interest earned on the loan project. Such a situation as this is quite common and banks must recoup their losses from other, infra-marginal projects with higher interest earnings and lower deposit rates. In Figure 2.2, the deposit functions would lie below the loan function.
10. J. H. Clapham, *An Economic History of Modern Britain* (Cambridge University Press, 1930) p. 266.
11. Rather curiously, the suspension of the Bank Act was not quite so successful in Scotland and Ireland. To avoid trouble, the Bank of England pushed gold coins into these areas, retaining Bank of England notes for England itself, where they were more acceptable.
12. H. U. Faulkner, *American Economic History*, 5th edn (Harper & Bros, New York, 1943) p. 626. It is, of course, an overly simplistic argument that declining commodity prices, which led to a decline in agriculture in the United States, could cause a stock market collapse on Wall Street. Nevertheless there is no doubt that the land speculation of the nineteenth century had been replaced by stock speculation during the 1920s. This would artificially enhance a 'marginal product of investment' well beyond the level appropriate for the actual output of investment.
13. This action was taken by the Federal Reserve Board in response to Great Britain's departure from the gold standard. See Milton Friedman and Anna J. Schwartz, 'Money and Business Cycles', first published in *Review of Economics and Statistics*, vol. 45 (Supplement, 1963) pp. 32–64.
14. Ibid. Friedman and Schwartz note four major recessions in the American experience from the latter nineteenth century to the present time in which panics were of primary importance. The first was 1875–8, which was precipitated by the banking crisis of 1873.

Second, the recession of 1892–4 was intensified by the banking crisis of 1893. Third, 1907–8 was the consequence of the failure of the Knickerbocker Trust, and fourth, the classic 1929–33 depression was greatly enhanced by the wave of bank failures in 1930 which was followed by many runs on banks to convert deposits into cash.

15. There is a 'feedback' mechanism in operation in the case of minor cycles which makes the cause–effect relationship particularly difficult to identify. It might be added here that it is unfortunate that the excellent scientific work of the Chicago School has been neglected by economists who insist upon following the more popular Keynesian paradigm.
16. Hans Bauer, *Swiss Bank Corporation, 1872–1972* (Basle, 1972) pp. 196–7.
17. The Marcos case is an example. During the final days of that regime, the Swiss government froze the Philippine assets, much to the chagrin of Swiss banks, until the new government could establish itself.
18. Swiss Bankers insist that they are not unwilling to co-operate with the American Securities and Exchange Commission when improper stock exchange dealings occur. See 'Survey, Swiss Economy', *The Economist*, 6–12 Sept. 1986, p. 10, for a somewhat different interpretation of events.
19. Out of a number of about 15 000 banks in the USA, 180 were expected to fail by December of 1986. This is a rather large number considering the economic upturn in the US economy; nevertheless it is no cause for alarm, nor is it a reason for a loss of confidence in the American economy.
20. For the six major banks, non-performing loans, those loans which cease to add to the banks' income, have reached $10 billion, (Sonita Horvitch, *Financial Post*, 13 Sept. 1986, p. 19). Dome Petroleum loans are now in this category. The recent collapse of the Hunt empire has also been severely felt by Canadian banks.

3 Euro-Banking and the Swiss Banking Paradigm

1. The reference is to Keynes, *Treatise on Money*, vol. 2 (Macmillan, 1932). Readers will have no difficulty in recalling his advice, namely, to expand the money supply *à outrance* with the objective of reducing the rate of interest and stimulating economic activity.
2. H. Bauer, *The Swiss Bank Corporation, 1872–1972* (Basle, 1972), p. 335. The proportion has since declined to fluctuate around one-third of the total.
3. 'Euro-equity Market – Like a Domestic Stock Market, Bell Canada', *Euromoney*, October 1983.
4. Helmut Mayer, 'Interaction Between the Euro-Currency Markets and the Exchange Markets' BIS, Basle, 15 May 1985.
5. O. Aeppli, Chairman of the Board of Crédit Suisse, 1981, Zurich.
6. 'Capitalism Under Stress', *Euromoney*, October 1983, p. 64.
7. *Banking World*, a somewhat obscure journal of banking. Of the

Latin American countries, 70 per cent of the loans were from commercial banks.

8. Schweitzer, 'Where Do We Go From Here?, *Banker*, November 1982.
9. Schweitzer makes a distinction between credit and capital which might seem artifical at first sight. To him, individual savings result in capital which can then be invested in foreign countries through the purchase of securities. Lending by commercial banks is credit. Such distinctions are charateristic of the 'economist's point of view', precisely what we would prefer to avoid.
10. Perusal of any of the consolidated balance sheets of commercial banks in North America will certainly bear out Schweitzer's argument. The growth of foreign lending in recent years has greatly outstripped the growth of domestic lending. He notes that these loans had grown to about $900 billion at the time of writing his paper (1982).
11. *Euromoney*, Oct. 1983.
12. Quoted by Mr. Fritz Stahel, of Crédit Suisse in an interview by the author with officials of that bank in Zurich, 1986.
13. *Les banques suisses en 1984*, no. 69 (Orell Fuessli Verlag, Zurich, 1985) table 3.
14. Ibid, table 80.
15. Ibid, table 3.
16. Ibid.

4 Capital, Investment and the Swiss Banking Paradigm

1. With the advent of the 'Big Bang' in London and the 'Mini-Bangs' in North America the distinction is no longer so clear. Anglo-American capital markets are approaching the Swiss model.
2. Schweizerische Nationalbank, *Les banques suisses en 1984*, no. 69, table 3, p. 32.
3. 'Switzerland, Up, Up, and Away', *The Banker*, July 1976. The negative interest rate of a massive 40 per cent on accounts over Sf 100 000 opened after 31 October 1974, was applied.
4. In 1978 the National Bank reverted to an exchange rate target via a cross rate to the US dollar through the DM. This was in response to the demands of export industries for assistance. An immediate increase in the money supply, M_1 occurred (16.2 per cent for 1978). This was followed by an increase in the rate of inflation to 6.5 per cent in 1981. Since then, the National Bank has followed a policy of targeting the monetary base. See 'An Interview with Dr Fritz Luetwiler', *Banker*, Feb. 1979. Additional data from Mr Fritz Stahel of Economics Department, Crédit Suisse, Zurich.
5. The term 'interbank deposits' now applies more strictly to the short-term deposits of banks used for settling claims between banks. As such, they are highly liquid deposits not available for longer-term lending as in the case of Euro-loans.

6. The reference here is to the Swiss Socialist, M. Richard, who urged these measures in 1980–1. See *Banker*, March 1981, p. 53.
7. To continue a comparison with Canada, a country which likes to boast of its banking system as being the 'envy of many countries', just one of the Canadian big 5 banks falls into the next category, A/B, Toronto-Dominion. The other four banks are all category B, well below the top 5.
8. H. Bauer, *Swiss Bank Corporation, 1872–1972* (Basle, 1972) p. 244.
9. Ibid, p. 281.
10. Ibid, p. 197.
11. *Bank of Canada Review*, August 1985, tables C3 and C4.
12. The same IBCA ratings also scored the USA as 96.5 out of 100, Mexico 36.4, Brazil 31.9, Argentina 22.7, etc., all the way to Nicaragua, 5.0.
13. H. Bauer, *The Swiss Bank Corporation*, p. 447.
14. The original cartel consisted of three banks: The Schweizerische Bankverein (the Union Bank of Switzerland), Crédit Suisse, and the Union Financière of Geneve; later the Basler Handelsbank was included, making four member banks.

5 The Swiss National Bank

1. *Schweizerische Nationalbank, Functions, Instruments, Organizations* (Secretariat, Zurich) 1983, p. 5.
2. Pierre Languetin, Chairman of the Governing Board of the Swiss National Bank, observes that tight monetary policies in the United States and Germany were largely responsible for the Great Depression in the 1930s. *Bulletin*, Crédit Suisse (Summer 1986) p. 8.
3. Hans Bauer, *Swiss Bank Corporation, 1872–1972* (SBC Basle) 1972.
4. Ibid, p. 438. It is interesting that for all the banks of Switzerland in 1984, legal reserves (*Gesetzliche Reserve*) amounted to Sf 12 842 million, whereas additional reserves (*Andere Reserven*) were Sf 10 639 million (table 80, *Les banques suisses en 1984*). Such huge excess reserves are foreign to Western banking, and it means that balance sheet footings could be expanded by very much more if the Swiss banks operated at a lower level of excess reserves. This conservatism is what makes the Swiss banking paradigm unique.
5. One might consider as a third classification those financial systems such as Great Britain and Canada that utilise the Exchange Equalisation Accounts. Such accounts avoid the inclusion of foreign exchange in central bank assets entirely (see discussion which follows). Such a third group is unecessary for the analysis, however.
6. In this regard, the 'rational expectations' hypothesis enters in. Of what value are policy decisions when agents within the economy expect these decisions and plan *their* decisions and actions accordingly?
7. The Latin American countries are cases in point.
8. The best account of the operation of the Exchange Equalization Account is still the Radcliffe Committee Report, paras 325 ff.
9. Monthly Report of the Swiss National Bank, February 1986, table 11.

10. Ibid, p. 6.
11. To maintain the fixed rate in terms of gold, the National Bank had to sell foreign exchange as it accumulated. The sale of foreign exchange reduced the monetary base and the money supply.
12. The consumer price index increased its growth rate from just 1 per cent in 1978 to 6.5 per cent in 1981.
13. *Les banques suisses en 1984*, pp. 32–3.
14. Ibid, p. 276.
15. Ibid, p. 276.
16. Ibid, p. 278.
17. Swiss Economic Data, 1985, Crédit Suisse, Zurich.
18. *The Bank of Canada Review*, table C3, and the Schweizerische Nationalbank *Les banques suisses en 1984.*

6 An Analysis of Deposit and Credit Markets

1. See, for example, J. M. Keynes, *Tract on Monetary Reform*, published in 1923.
2. This is in Mayer's use and meaning of the term. Even though Eurodollar claims may be owned in the Far East, they are still dollars. (See Chapter 3, note 4, above.)
3. The 'standard' macroeconomic explanation, that low interest rates encourage investment along the investment function until full employment, however defined, is reached is just not acceptable in the modern world of finance. In macro-theory it is only at the point of full employment, and not before, that prices begin to rise. The fact is that unemployment and rising prices are all too prevalent to accept this explanation. Once the financial interpretation of capitalised values is recognised, the rationale is quite simple. Higher capital values generated by low interest rates must be maintained *whether or not* business enterprise continues to borrow funds. They can only be maintained through higher prices, hence the equilibrium between lower interest rates and higher prices exists.

   Alternatively, one may consider the necessity for business enterprise to allow for inflationary cost increases during production processes when inflation is anticipated. Higher inflation rates require higher prices to recoup expected inflationary cost increases. Furthermore, the higher the cost inflation rate, the greater the degree of risk involved in pricing products for the market. Lower interest rates can effectively compensate for increased risks by 'locking in' the cost of a major input, bank credit, at lower levels.

   This is really the same argument as the capitalised value used above, merely from another point of view.
4. The distinction here between short term and the, implied, long term rests upon the development of superior production techniques which make possible lower prices as opposed to higher prices. In the long run, prices have fallen relative to incomes, making possible improved living standards. This is well beyond the aftermarket referred to in the analysis and represents true economic growth.

5. This principle may require some additional explanation. Increasing the interest rate is seen as restricting investment if the value of the marginal product of capital does not change. This is correct, but it does necessitate a new schedule of r and P to restore equilibrium. Since higher interest rates without a compensating higher P does *not* constitute equilibrium, and equilibrium (defined as the restoration of the same value of investment) can only be restored by a higher P, every incentive exists to shift the CM function further rightward. We are, thus, on the road to inflation.

   This interpretation of financial markets and interest rates is quite different from the famous Keynesian 'inversion'. Interested readers might check this in the *General Theory of Employment, Interest, and Money*, p. 192.
6. Readers will please note the 'inverse' relationship between the supply of liquidity relative to interest rates in the market for funds and the demand for liquidity relative to the interest rate in the market for credit. Because of this, the Deposit Market equilibrium function has a positive slope and the Credit Market equilibrium function a negative slope.
7. *International Financial Statistics*, Yearbook, International Monetary Fund, Washington, D.C.
8. E. B. Chalmers, *The International Interest Rate War* (Macmillan, London 1972).
9. *International Financial Statistics* (Washington DC, 1982), Interest Rates table, p. 56.
10. Ibid, p. 465.
11. The OPEC-inspired oil price increases are symptomatic of just this situation, as are the problems of acid rain, pollution, excessive destruction of animal life to the point of near extinction, etc. which appear in ever-greater frequency.
12. See *The Economist*, 'Economic and Financial Indicators 2', 13–19 September 1986, p. 111.
13. A further analysis of the devaluation of the US dollar in terms of aftermarkets for Eurobonds, etc. follows in Chapter 8. In reality it is a combination of both aftermarkets and investment function shifts which has been responsible.
14. F. A. Hayek, *Pure Theory of Capital* (Routledge & Kegan Paul, 1941) ch. 14. This is the argument advanced by Prof. Hayek in his 'point input-point output case'.

7 Euro-Currencies and International Banking

1. The term 'wager' is not meant to be pejorative. Banks and multinational enterprises, seeking a currency in which to store their liquid funds, could only shift from an apparently weak currency into a stronger currency. Selling the 'weak' currency forced the devaluation of the weak currency to make the devaluation actual. Euro-currency borrowing furnished the necessary liquidity to effect the operation. We have in mind here, of course, the great devaluation of sterling, the French franc, and the US dollar.

2. Harold Lever, 'Casino of World's Currencies', *The Times*, 15 July 1981.
3. E. B. Chalmers, *The International Interest Rate War* (Macmillan, London, 1972).
4. Boyden E. Lee, 'The Eurodollar Multiplier', *Journal of Finance* vol. 28 no. 4 (Sept. 1973) pp. 65–74.
5. *Euromoney*, April 1975.
6. Mayer, in an early study of the effects of Euro-lending on exchange rates, missed this important point of the difference between liquidity structures to consider only the geographic aspect of Euro-currency lending and its impact on foreign exchanges. In terms of forward exchanges vs. spot markets, the differences in liquidity would be the more significant influence than just whether or not the lending is outside the country. Admittedly this is a very early document, written when Euro-currencies were still in their relative infancy. H. W. Mayer, *Interaction Between the Euro-currency Markets and the Exchange Markets*, BIS Economic papers, no. 15, May 1958.
7. Such 'opportunities' arise almost continuously. Producers and sellers alike have a demand for money which cannot always be satisfied by increased output. Higher retail prices can satisfy this demand and higher producers' costs can do so as well, the classic case being the obvious OPEC oil price increase. Competition is the only check on such price increases, and, when this weakens sufficiently, the result is inflation and the rightward shift in the Money Market function. For a detailed development of this concept, see W. Blackman, *The Canadian Financial System* (McGraw-Hill, 1980) pp.47–57.
8. J. Hewson and E. Sakakibara, *The Euro-currency Markets and Their Implications* (Lexington Books, Lexington, Mass., 1975) p. 146.
9. See *General Theory of Employment, Interest and Money* (Macmillan, 1949) pp. 167–8.
10. Ibid, p. 245.
11. One group of British bankers, when asked about this particular point, simply stated that they work without question within the constraints laid down for them.
12. 'The Year Monetarism Dies?', *The Economist*, 4 Jan 1986, p. 11.
13. Pierre Paul Schweitzer, 'Where Do We Go From Here?', *Banker*, Nov. 1982.
14. Anthony Harris reporting in *The Financial Times* 23 Sept. 1982.
15. *The Economist*, 14 March 1986, p. 14.
16. William Hall reporting in *The Financial Times*, 11 May 1984. The occasion was a meeting of bankers hosted by Mr Anthony Solomon, President of the New York Federal Reserve Bank. Other bankers at the meeting, incidentally, were somewhat sceptical of the Citibank view.

8 Financial Markets and Government

1. For a quantitative evaluation of these components for the year 1985, readers may refer once again to Chapter 5, Table 5.1.
2. Schweizerische Nationalbank, *Functions, Instruments, and Organizations* (Zurich, May 1983) p. 18.

3. We might generalise somewhat on this. Germany also does not provide for automatic funding of government debt by monetary expansion. Many Latin American countries, on the other hand, are in the 'inflating camp', with consequences all too well known.
4. With the inflow of foreign currencies, an additional *DM* relation of foreign origin would shift the *DM* relation rightward to supplement the domestic Deposit Market. This is not shown on Figure 8.2.
5. P. P. Schweitzer, 'Where Do We Go From Here?', *Banker*, November 1982.
6. It will be observed that the expectational phenomenon in the after-market alters the slope of the relation from positive to negative. Thus, in Figure 8.5 a negative relation between the reciprocal of interest rates and exchange rates is shown. This implies a positive relation between interest rate and exchange rates; however, when expectations are introduced such that when interest rates fall they are expected to fall further, the relation is inverted to become negative.
7. We emphasise the word 'likely' here. Theoretically, the relative elasticities could be overcome by the volume of currencies available in both markets; however, this possibility must be growing less with the sheer enormity of the Euro-currency markets.
8. The only way that the inflating country such as the USA may avoid transmitting its inflation abroad would be by means of a depreciating US dollar at the same time that the US domestic price level rises. The conditions in the aftermarkets would necessarily be such that interest rates are expected to rise at the same time that they are being reduced, i.e. $r - r^* = -$. Expectations of capital losses would, therefore, enhance the effect of falling rates on the *IM* function.
9. Monetary policies of central authorities appear to be based upon the Keynesian dogma laid out by Keynes at the start of the Great Depression, in particular in vol. 2 of his *Treatise on Money*. Money is 'tightened' by open market operations in some form which result in checking the growth of the Monetary Base. This forces an increase in the domestic interest rates, making the cost of banking activity greater. Both the Deposit Market and the Credit Market experience higher costs in terms of interest.

   The possibility of a better means of checking inflation than via the monetary base of the system (indeed if such a measure should even exist at all) is a matter for economic policy research at the highest level.
10. The 'suspicion' here derives from interviews with London bankers.
11. Schweizerische Nationalbank, *Functions*, no. 7.
12. The powerful Gentlemen's Agreements, discussed earlier, do not interfere in the detailed operations of banks – setting interest rates, etc. They are actually no more than guidelines to be followed.

9 International Liquidity and Capital Markets

1. G. Papi, *The First Twenty Years of the BIS* (Bancaria, Rome, 1951) p. 44.

2. H. Schloss, *Bank for International Settlements* (New York University, 1970) p. 48.
3. Ibid. There is no evidence as to what happened to the motion aside from the fact that Harry Dexter White himself was in favour of it.
4. Schloss, *Bank for International Settlements*, New York University, 1970.
5. As would be expected, the BIS figures are subject to some revision. For example, the Annual Report for 1986 gives the following for total 'cross border positions' (International Lending):

1981	*1983*	*1984*	*1985*	*Stocks (end 1985)*
264.8	103.7	122.7	221.5	2512.7

   The 1985 Report uses the rubric 'International Lending' instead of 'Cross Border Positions'. It is the latter title which would be more accurate since inter-bank deposits do not represent 'lending' *per se*.
6. Such payments are now greatly facilitated by computer-assisted communications known as SWIFT (Society for Worldwide Interbank Financial Telecommunications).
7. BIS, *Fifty-fifth Annual Report, 1984/85* (Basle, June 1985) p. 112.
8. BIS, *Fifty-sixth Annual Report 1985/6* (Basle, June 1986) p. 87.
9. Corporations in both Canada and Japan have shown such a preference.
10. The word 'apparent' is used here for an important reason. Opportunities for lending within and to these countries were perceived by banks as being available. The fact was that the banks' perception was not necessarily correct since they did not possess the necessary criteria for evaluation of loans internationally to the same extent as nationally. This was the unfortunate circumstance of the time.
11. C. Langoni, IMF Essay, *Euromoney*, October 1983.
12. BIS Annual Report, 1986 p. 85.
13. The term 'inflating countries' is used in a descriptive sense only and does not suggest a pejorative meaning.
14. Oil exports from these countries reached their maximum at $300 billion in 1980, thereafter to decline to $173 billion in 1984. BIS, Annual Report, 1985, p. 108.
15. Ibid, p. 142.
16. Stability of the foreign exchange/interest equilibrium would be determined by the domestic equilibrium of the anticipated price level and interest rates. It is this latter, the equilibrium of the Deposit Market and the Credit Market which restores interest rates to former levels, once a deviation occurs, that is responsible for interest rate stability. Once interest rates are stable, the exchange rate will likewise follow in a free market context.
17. The world inflation rate herein defined does not embrace domestic rates of inflation contained within idividual countries, such as Italy – an important user of international funds. Such inflation is superimposed upon the joint 'world inflation rate' that is shared in common by many countries and which has long been recognised, and feared, by some economists.
18. BIS Annual Report, 1986, p. 90.

19. BIS Annual Report, June 1984, p. 163.
20. Ibid, p. 140.
21. Ibid, p. 138.
22. Ibid, p. 139.

10 Conclusion: Stability Midst Instability

1. It might be appropriate to mention the British system, the Public Sector Borrowing Rate, or PSBR, which is the equivalent of the US Federal Deficit as far as the money supply is concerned. Since (i) either the public or private sector may require additional financing, and (ii) liquidity is always provided via the discount market in London to the banking system, it follows that the monetary base will always be great enough to accomodate either the public or the private sector or both. What matters is that a flexible money supply exists, and it is this which characterises the inflating country.
2. It has been estimated by the OECD that a 10 per cent increase in oil prices result in a 0.5 per cent increase in the cost of living. Thus a 300 per cent increase in oil prices would result in a 15 per cent increase in living costs. O. Aeppli, 'Oil, Banks and the Economy', *Banking Views* (Crédit Suisse, Zurich, 1980) p. 8.

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